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BY

GEORGE N. KREIDER, A. M., M. D.

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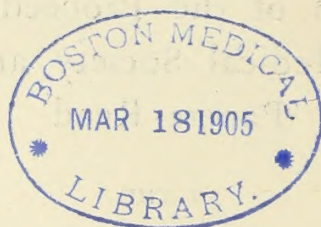
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## PRESIDENT'S ADDRESS.

### THE RELATION OF OUR SOCIETY TO MEDICAL BOARDS.

BY CARL E. BLACK, M. D., JACKSONVILLE.

Mr. Chairman, Members of the Illinois State Medical Society, Ladies and Gentlemen:

The custom and rules of this honorable and beloved organization require that its President should present an address, otherwise, I would not appear before you in this role this evening.

I have read the addresses of most of my predecessors and realize how ably and fully the ground has been covered. Eighteen years ago, Dr. Byrd, of Quincy, then President of this Society, devoted his address to a suggestion of methods by which the interest and the attendance of this Association could be improved. This address occupied less than ten minutes in its reading, yet in the light of recent progress its scope is truly remarkable. He made five points, viz:—  
1st. Organize county societies. 2d. Have delegates from the county society to the State Society. 3d. Constitution of county societies should be similar. 4th. The State Society should have ordinary members for the discussion of papers and representative or delegate members who take the legislative and executive work out of the main meetings. 5th. Establish a monthly or weekly Journal, instead of the annual volume of transactions. Thus we see that at least eighteen years ago all that we have been striving for in organization was stated in a nutshell, and advocated in a presidential address on the floor of this society.

The thoughts which I now present to you are taken from personal experiences of the

three years. We are fully in the whirl of reorganization, in the Nation, as well as in the State and in the county. Five years ago less than one-fourth of the physicians in this country were in any medical society, and in Illinois less than one-twentieth of our physicians were in this association. Many very good men do not seem to understand why we organize, or at least do not perceive any pressing need for organization. They do not seem to realize that under present conditions organization is evolution and that disorganization is dissolution.

They fail to realize that no physician, no local society, no state society, no board of health, no board of examiners, not even a national association can live best for itself alone. The very nature of our profession and of our civilization demands union, demands organization. President Alexander T. Darrah, of your own beautiful city of Bloomington, summarized this matter in his annual address at Peoria in 1883. He said he had visited many medical societies, from Cairo to Freeport, and had found the profession so ununited, unharmonious, full of rivalry, jealousy and bickerings, which prevented united work, that we could not command respect. If we do not respect ourselves and our profession, when we go before the public we find how little we are respected.

The increasing demands of our professional progress is making it necessary that we extricate ourselves from the lowly estate and neglect, in which our profession has been held by political powers and governments, and establish ourselves upon an entirely new basis.

Re-organization has been made necessary by the rapid strides of professional improvement. The evolution of scientific medicine is bringing about an entirely new conception of the true function of the physician. One of the elements of this evolution is specializa-

\*Read at the 54th Annual Meeting, May 17, 1904.

tion. As our science has developed our professional work is more and more divided into specialties, which, of necessity, must be co-ordinated by some central organization in order that the profession may be maintained in a single whole. Centralization or organization is always the complement of specialization.

Dis-organization means a maximum amount of friction and disturbance; while by organizing we bring the various professional factors together into such an organic whole that they work with the least possible friction and loss of power. Dis-organized bodies never have power and influence while the reverse is always true of those which are organized. This is a basic principle, whether seen in the business world, in political powers, in the government, in the church, or in scientific and professional life.

"The greatest good to the greatest number" should be our motto, and universal professional improvement should be the avenue through which it is to be attained. We should be especially interested in all ways and means to secure better qualified physicians. This in a broad sense is the object of organization.

Anything which benefits the profession as a whole will benefit the individual members of the profession, and will be carried by them to the sick and suffering. The relief of pain and suffering; the prevention and cure of disease, and the prolonging of human life are more largely the inspiration of our thought and work than can be true of any other class of citizens.

We should not overlook or decry the business side of our professional life, but at the same time we should remember that our calling has a humanitarian and philanthropic side which is its very essence, and without which no man of heart and soul would have the courage to engage in it.

The evolution of our science and art is a glorious history, full of personal sacrifice and noble achievements for humanity and for science, of which we should not be ashamed or afraid to tell the people. Scientific facts can always be fully and freely told. Only empiricism requires secrecy and mys-

tery. When we take the people more into our confidence we will be better understood and our motives not so frequently misjudged.

Three things have always impeded the progress of our undertakings before the public or its representatives. The first, and most important, is lack of harmony within our profession which is synonymous with poor organization; second, ill advised attempts at framing a definition of the practice of medicine; and third, and almost as important as the first, we have allowed our affairs to fall too much in the hands of those who have no interest in us excepting to use us.

It is evident that if we are to do effective work we must act in harmony. We must each one be willing to follow and co-operate with the will of the majority, as expressed in our formal debates and resolutions. We will secure desirable laws just as far and as fast as we secure the confidence of the public and harmony of action is a primary element in securing that confidence. We should each one seek to impress upon the people, and through them, upon our law makers and our courts, the fact that the practice of medicine includes all which pertains to the cause, diagnosis, prevention or treatment of any human ailment. Fortunately Illinois has secured a very broad interpretation of our definition of the practice of medicine by the supreme court. It is absolutely essential to the success of our undertakings that we secure for ourselves some part in the control of affairs, municipal, county, state and national. How are we to do this? There are several things necessary. In fact, the three elements mentioned must form the basis of our progress. Once having some voice in our own departments we will have something to offer as well as something to ask for. The regulation of the practice of medicine and the department of health naturally belong to our profession. Our profession has made them all they are—who else has an equal right or interest in them? When we think about it seriously, it is ridiculous that the guiding voice should be other than in the medical profession, and in no other place is it so safe. We



will not accomplish the ends for which we have so often striven, until we take a more aggressive part in these matters and assume the responsibility which naturally belongs to us, directing the administration them for the benefit of the people, whom we daily serve.

We should realize that the issuing of a license to practice medicine is not merely the answering of set questions, put by a few examiners, and the paying of a fee of Twenty-five Dollars (\$25.00), but the issuing of such a license comprises all there is in education, both preliminary and medical, and more important still, it determines the character and fitness of the future members of our profession. Who should be the ones to pass upon this question? There is only one body, which by virtue of its standing and qualifications, deserves the privilege and should have the right to pass upon these important questions. We bear the responsibility while having only an indirect voice in license and registration. When we fully realize the scope of this question, it is absurd that anyone outside of our medical organizations should presume to have a voice in passing upon the qualifications of our colleges, and it is easy to see that we will have a heterogenous professional mixture until this whole question is turned over to our organizations where it belongs.

We, as medical men, are now at work forming a great organization which is to be the machine with which we hope to accomplish important results for the people, as well as for ourselves.

Just now there is before the British Medical Association a proposition to defray the election expenses of medical members of parliament in order that the medical profession may be justly represented in that body.

A mistake which, in the past, has been too frequently made is to disparage the doctor who has political aspirations. Instead of encouraging such men, and at the same time directing their actions, we have repelled them. We should seek to bind them to us. It is a mistake to believe that because a physician is interested in politics, he is neces-

sarily a bad man. In fact he may be a very good man and will certainly be a very useful man to the profession if we encourage him, sympathize with him and bind him to our cause.

Little can be accomplished without organization. The lack of it has been our greatest weakness. This is peculiarly applicable to securing medical legislation. Such measures should be the offspring of the medical profession. The public and members of the legislature do not comprehend their importance. Such measures are always in advance of any expressed public demand and naturally meet opposition within, as well as outside the profession.

To illustrate how this works in a practical way, your attention is called to the effort which your last legislative committee made to secure a law establishing a Board of Examiners in this State. This was not a conception of the legislative committee, but was a formal instruction, after full debate, given that Committee by this Society. The Committee was given three years in which to accomplish the work.

This bill, before being presented to the legislature had been twice considered by the State Society in full session and endorsed by over fifty of our component societies, and had five times been presented to every member of each component society. Over 1,000 interested physicians of Illinois had contributed money, as well as time, in assisting the Committee in pushing the work. The officers of the Board of Health proclaimed that they were heartily in favor of a law, creating a Board of Examiners. Governor Yates gave the Bill unqualified support. The Bill was presented in the legislature by members of our profession, who are also members of our Society. One was a Republican, the other a Democrat. The Bill passed the Senate unanimously, not meeting with a dissenting vote. Can anything seem more auspicious than this picture? The Bill was never reported out of the Judiciary Committee to which it was referred in the House, although the Chairman of the Committee repeatedly promised to let it go to the House on its

merits. The action of this Chairman was a great surprise to your Committee, because it had been assured by the Secretary of the Board of Health that this was the best committee in the House to which our bill could be referred. The Legislative Committee had positive pledges from members of the House in sufficient numbers to have the bill passed, had it ever been reported. Yet your Committee and others familiar with the situation were painfully aware for weeks that the fate of the Bill was in jeopardy. You will ask, what influence could be so potent. The answer is simple. At least one important link in our organization was too weak to stand the strain. The chain broke just at the moment when every link should have been firmly welded for a final, united effort.

There were innumerable reasons given for the disaster. The Board of Health said, "It was the influence of the Homeopaths and Osteopaths, and the general opposition to the creation of new Boards." The Editor of the *Journal* says, "It was the influence of the Governor and his medical political advisors." Certain well informed members from Cook County say, "It was due to the treachery of the Chairman of the Judiciary Committee of the House." Others say it was due to the fact that, no body of men—even clerical—ever willingly accepted a measure reducing its own power, which would have been the case with the Board of Health had the Bill passed and become a law. But the Legislative Committee, after canvassing the question, believe it was due to incomplete organization. Our bill was not defeated by the politicians, it was not defeated by the Governor, it was not defeated by the homeopaths, osteopaths, or Christian Scientists; it was defeated by members of our own society.

Almost every measure asked for by the medical profession, which has failed, has failed because of the opposition or the lack of interest shown by members of the profession. Under the present system, some of the doctors who have attained political positions seem to consider it far more important to represent some group of politicians than to represent the Medical profession.

This does not apply to our condition in

Illinois more than to most other states in the Union. This is not altogether the fault of the politicians and the office holders. It is the fault of our profession. It is the result of our failure to co-operate and act in harmony; of our love of individual expression of opinion often coupled with selfish motives; of pulling apart when we should pull together; of dis-organization instead of organization.

The politicians and political leaders never allow an opportunity to go by to impress upon the office holder that he owes his position to him and to demand that his allegiance and favors go with this obligation. What office holder owes his position to the medical profession, and from what office holder does the profession receive such allegiance as is granted our politicians. This is not altogether the fault of the medical office holder, who is subjected to the political tyranny of our present system, but rather the fault of our profession, which should emancipate and protect him. Our medical organization must form a balance wheel in partizan politics. It is a problem for organization.

During the past year I have had correspondence with a large number of officers of boards of health and boards of examiners in various states upon this subject. I have asked them what their relations were to the organized profession in their State, and what support they received from their professional organizations. In nearly every case the answer has been that the profession gave them no direct support, and indirectly only a limited interest. In fact, there seemed to be running through many of the letters a tone of discouragement at the attitude of the profession toward these officers. Several secretaries wrote me that they were trying to secure a better understanding with their societies and through them with the profession, and to receive a more active and live interest on the part of the profession.

Before we can act successfully as an organization, we must learn that each one has a duty to his profession and its recognized organizations which is above personal opinion. Each one has an "accountability"



to his profession, which is entirely consistent with the liberty of personal opinion. This accountability is greatly emphasized if a member has taken part in the conferences leading up to the action taken by the organization. Such expressions of personal opinion in opposition to the decisions of the Society can only be considered as professional treachery. If the one committing such a breach of ethics is in official position, either civil or in the Society, his "accountability" is increased, and his liberty of personal opinion and action, is diminished. Such a one is already assuming to represent his profession and should use the utmost care in following the decisions of his professional organization.

We have many members in our Society who stoutly repel any effort to have them follow organization leaders. The only bill which they can support is the one they frame themselves. They place personal and individual declaration of opinion above any which the organization or its appointed leaders may have formulated. It is desirable that such members should learn that "accountability" is one of the foundation factors in organization. All members are to a degree accountable to any organization to which they belong.

In a political pamphlet recently sent out by the Board of Health of Illinois, the Governor is reported to have said:

"The present Executive is willing, and doubtless every other executive will be willing, to listen to proper and reasonable recommendations, and it may be that in the appointment of professional Boards every executive will, in nine cases out of ten, select as members the persons recommended by the professions affected; in as much as the executive will doubtless assume that the profession affected is more interested and better informed than any other persons or citizens can possibly be." This is a very important suggestion, coming as it does from the chief executive of our own State. It is fully in line with the effort which has been made during the past two years by the Council of your Society to influence the medical

appointments, and we should not be slow to take advantage of the suggestion.

In nearly all states we have allowed our affairs to get into the hands of the politician. They decide what we shall do, and how we shall be represented. There are a few bright spots, which point out what can be done, and what should be done.

In Alabama the State Medical Association is constituted by law the State Board of Health, the County Medical Societies in affiliation with the State Society, are constituted the County Boards of Health. This is in marked contrast with conditions in most other states. Of course, proper machinery is arranged within the Society for transacting the business, and the business is lodged where it belongs, where it is safest, where it receives attention untrammelled by political tyranny, and where the people receive the benefits of professional deliberation carried into execution. In a word, the organized medical profession furnishes expert advisors for the municipality, the counties and the state and names them.

The secretaries of Board of Examiners, in answering my inquiry show that even in states where the societies are not by law vested with power to elect or nominate, it is more common for them to take an active interest in suggesting the membership of such boards. Even in these, with a few exceptions, the relation of the profession to such boards does not seem to be satisfactory. Like the Boards of Health there seems to be a feeling on the part of the profession that these boards do not properly and fully represent them. It cannot be that this state of affairs is entirely due to the officers of our boards. Many of them are doing excellent work, but there is a lack of force to it which can only be supplied by active professional co-operation.

In our own State much good work has been accomplished. During the last six or seven years two "Medical Registers" have been published; important "Notes on the Sanitary Investigation of the Illinois River and its Tributaries;" and a reprint of a valuable work on "Poisonous Plants of

the United States" have been given to the profession; "A More Complete Sanitary Investigation of the Illinois River and Its Tributaries" was distributed by the Board in 1901; and recently an exceedingly complete and accurate directory of the physicians of the State, and containing valuable information on medical education and medical laws, has been published. These, and several other publications, are of vital interest and importance to the profession.

While it has not been made a matter of report it is probably known to many of you that the Board has been almost constantly lending assistance to local boards of health in controlling and stamping out epidemic diseases and in investigating and suggesting various means for improvement of supplies of drinking water. All these things have been done by our Board, for which we should be truly thankful. The Board in Illinois has a history of which all are justly proud and many of its achievements have been brilliant and lasting.

I have never been able to obtain a satisfactory explanation of why our Board has discontinued the publication of the Annual Report. It has now been seven years since any detailed report of the work of our Board of Health has been given to the public or the profession, except a few scraps here and there, in the daily papers and medical Journals and an occasional bulletin. We have no reports which appear regularly, keeping us informed of the work of the Board and in a form to put aside for future reference. The fact that in former years the annual report did not appear regularly is not a reasonable excuse for discontinuing them, but rather should impress the desirability of having them appear regularly. The publications mentioned above, while valuable, are in no sense reports of the work of the Board, either on Public Health or Medical Education and Licensure. Most states, of the importance and size of Illinois, publish reports which keep the profession informed about the work of the Board and show how its members can co-operate with and support the work.

Therefore, I am lead to believe that the re-

lation of medical societies to boards of health, both local and state, and to boards of examiners, are not what either party would have them and are among the vital questions of the day.

We must continue and complete our re-organization, and then take hold of these problems and control them. Who are the natural conservators of the public health? Are they the governor, the politicians, or even the health officers? No, the great medical profession, and it alone, stands guardian over the public health. This work is our legitimate field and our most natural duty.

No local health officer should have the temerity to present a health measure for adoption until it has first had the benefit of the discussion and the approval of the local medical organization. The same principle should prevail in state health matters. Every health measure, before it is presented to the Legislature of Illinois, should have the seal of approval of this Society, and no officer, or member of the Board of Health, should prefer to act independently or in opposition to the debates and resolutions of this organization. He should consider it a privilege, as well as a duty, to represent his profession and, as an executive officer, continually put into effect the results of professional progress. The profession should wake up; should realize their duty; and should get actively behind all health legislation and all health regulations. Who else is competent? What other organization or upon what other set of men is such a duty placed? None.

There is no trouble with city councils or members of the legislature; there is no trouble with mayors or governors. These men call us when they are sick, they have confidence in us; in private they confide to us their most distressing and painful secrets, knowing that their confidence is not misplaced, and if we do our part they will have the same confidence with us in public life. If they do not hear the whispers of some selfish self-seeking medical official, trying to secure personal gain by undoing his profession, they will pass the laws which we commend.



## PRESIDENT'S ADDRESS.

Our societies must take up this practical work. Perhaps it is not so easy for the public to see that health matters naturally belong among the civic duties of our profession, but it certainly should be clear that the regulation of the practice of medicine is purely and solely a professional matter.

Governor Yates is a life time friend of whom I am justly proud. I feel that he has conscientiously tried to do much for our profession. He has repeatedly said to me that the officers of the State Board of Health were appointed because they were supposed to represent the medical profession; that they were recommended by members of our organizations, and for that reason, and that alone, received their appointments. He has tried to do what he thought the profession desired. However, in his veto of the dental bill he took occasion to say some important things about the danger of government by societies. The Governor has recently written me that he heartily approved of the medical bill and would gladly have signed it had it passed the Legislature. I am aware that many physicians in this State hold the Governor responsible for its defeat, but I believe that responsibility belongs to this Society.

It behooves us to exercise the greatest care in recommending to mayors, county boards, or governors, those who are to represent the medical profession. We should avoid those who do not consider the carrying out of the expressed will of the profession a duty. Our medical office holders should be good politicians, in fact should be too politic to allow their profession to be betrayed to those having no interest in its aims. We should avoid those who make personal interests paramount, or who through the careless use of their official positions, defeat the expressed wishes of our professional organizations.

I believe that if this organization at this meeting should nominate members of the Board of Health to succeed those whose terms may expire between now and our next meeting, any governor would give serious attention to such nominations.

We must demand some voice in the appointment of members to medical offices.

The least which we should be satisfied with should be the right to nominate such officers to the appointing power. More than a dozen states now have such provisions in their laws. Several states have far more radical laws in which the officials are appointed or elected by professional organization. The medical organization is constituted the official machinery for guarding the public health and regulating medical practice. This is the natural and proper order of things and a study of the new laws being placed on our statute books will convince you that this is rapidly becoming a demand of our people. It has been suggested that all such officers be elected by direct ballot, every licensee being eligible to vote.

All must recognize that this organization is not for financial gain, but is really for the benefit of the people by the advancement of medical science and art, and the improvement of the members of the profession.

The regulation of the practice of medicine should be a matter wholly within the profession. We are the ones to ask for it; it is our own advancement and protection; we pay the bills, and no one outside of the profession, not even the Governor of the State, should have controlling interest or concern in it as long as injustice is not done any citizen. It is not necessary, constitutionally, or otherwise, that such a board should be appointed by the Governor.

Your last Legislative Committee spent a considerable sum of money to secure the best legal opinion this State could afford on this point, and the statement that there is nothing unconstitutional in permitting boards to be nominated or even elected by those they represent is based on the opinion of one of the best constitutional lawyers, and an eminent ex-judge of the supreme court, as well as of several other attorneys of prominence. Therefore, I repeat that the bill proposed contained nothing which was unconstitutional.

It is admitted that if the Governor clearly sees any injustice being done any citizen or body of citizens, by such a law, it is his right and duty to dissolve such a Board and him-

self appoint such members as he thinks will secure justice.

It is a mistake to suppose that all boards of examiners in this State are appointed by the Governor. Who appoints the Board of Examining Lawyers? Does the Governor? No. The lawyers do this through the Supreme Court. The lawyers have been careful of their own interest and kept the regulation of the practice of law within their own profession where it rightly belongs.

The members of the State Board of Pharmacy are appointed by the Governor from nominations sent him by the State Association of Pharmacists. The law requires that the Illinois Pharmaceutical Association shall report annually at least three names to the Governor, whom such Association deem best fitted to fill any vacancy. This is practically the same proposition asked for by the physicians, dentists and nurses in their bills, before the last legislature.

The Board of Examining Veterinary Surgeons consists of three members, appointed by the State Board of Live Stock Commissioners, without any reference whatever to the Governor.

The members of the State Board of Agriculture are elected on the State Fair grounds by delegates sent by the county agricultural societies. The Board consists of a president and vice-president from each congressional district, who with the last ex-president form the Board, which has control of all the affairs of the department of agriculture.

The State Horticultural Society is a state public corporation, managed by a board consisting of the president and secretary of that Society, and the president and vice-president of each of the three district horticultural societies. The members of this Board are elected directly by the Society.

Examples of this kind might be greatly multiplied in this State if it was necessary. The last Legislature which defeated our bill and passed the dental bill and nurses bill, which were vetoed by the Governor, passed the expert accountant law, which provides for a board of examiners to be appointed by

the University of Illinois, without any reference to the Governor.

How is our organization to effect a change in the present situation? How are we to secure men in medical positions who will represent us on all occasions, instead of men who represent us when it suits their pleasure, or when we are a desirable quantity for endorsement? In fact, how are we to secure genuine professional representation in official positions? Certainly thorough organization must precede any such consummation. Practically, it is necessary that the medical profession assert the political power, which their position and influence should give them.

This can only be done by agreeing to some proposition and every man in the Society working for it whether it happens to suit his individual views or not. Essential to securing this end, are executive officers of the Board of Health and Board of Examiners, who can be relied on to make the interest of the medical profession paramount.

We must secure laws which give the profession at least the right to nominate members of these various boards, local as well as State. This is certainly the most natural thing, and cannot possibly injure any citizen. In fact, it will greatly improve the work of such boards.

Is not the Chicago Medical Society competent to nominate the local health officers of Chicago? Are not the physicians of Chicago sufficiently informed regarding sanitary and health matters to be entrusted with such nominations? Do they not take sufficient interest in health problems to qualify them for the selection of health officers? Do not the physicians of that greatest of all American cities meet all the cases and conditions demanding health regulation? It is time our societies added practical work to the reporting of cases and the reading of papers. We must broaden our work. As our science has extended, our responsibilities have increased. We have been the silent partners of the politician and political doctors too long already for our own good, as well as for the good of the cause. Some



may think such views too radical, but if the signs of the times can be read aright, they are as sure to come as the re-organization prophecy by Dr. Byrd, 18 years ago, now being adopted not only in Illinois but in the whole nation.

The problems of the regulation of medical practice are quite different from those of health regulation and sanitation, and are even more at the door of the profession for solution.

It is no permanent loss that our last bill failed before the legislature. The source of that failure is of inestimable value in showing us some of our weak points. The principal thing which the new law would have accomplished was to place in the Capitol at Springfield an executive medical officer who really and fully represented the profession. This would have given the profession the greatest possible advantage in securing desirable legislation, and in fact without such constant representation in the Capitol we can never accomplish what we desire. As long as our representatives are under more obligation to the politicians than they are to their profession, we will be handicapped in securing desirable legislation.

In nearly all our states the Board of Examiners is also trustee of preliminary education, as well as medical education. A much more comprehensive plan should be adopted than was proposed in our last bill. Such a plan should place the control of preliminary education in the hands of our educators.

All professions requiring license, based upon educational qualification, should be brought into consultation, and a plan agreed on by which the problem of preliminary education would be completely provided for and placed outside of any of the professional boards. We should not have the spectacle in this State of a dental school refusing a student on account of deficient preliminary education, and a medical school accepting the same man and the Board of Health approving his preliminary qualifications. There should be some way to control institutions, granting degrees. At present there is no means of arriving at uniformity in pre-

liminary education. Each professional board makes its own rules. The desirability of some such plan is shown by the fact that some professional schools in this State have referred all questions of preliminary education to the State superintendent. Many states are seeking to solve this problem with more or less success. So far none of the laws seem perfect and yet several are very far in advance of our own position. Some kind of an educational board or commission should be established on such a basis that it can deal with all phases of education. The matter of preliminary education must of necessity be in the hands of men other than physicians, or at least in the hands of a board, the majority of whom, are not physicians, if we are to attain the highest ends. Many men who have had wide experience in the matter of granting license upon examination, consider it a foundation principle in all departments that where the examiner comes directly in contact with the applicant there is no chance for a successful administration of the law.

We should have a commission representing the educational system of this State, in all its departments. This commission should provide for the academic qualifications of those desiring to enter the professional field and no man should be eligible to enter upon professional studies until he has met these qualifications.

Such a commission should be made up of representatives of all the professional boards, and should have some supervision over the law, governing each profession. There should be some arrangement by which the applicant for license should not come in direct contact with any member of such a board. The high schools, academic schools, colleges and universities should all be governed and directed by a commission whose standing would be such as to disarm any possible criticism, and whose terms of office would be such as to make political interference impossible.

I believe that it is time we invite consultation along these lines and develop some plan of carrying into effect this higher plan of educational regulation.

Suppose Illinois had an educational commission of whom the Governor was president ex-officio, the Superintendent of Public Instruction was the president, with the Lieutenant Governor, the Secretary of State, the president of each board of examiners and fifteen representative educators and citizens as the remaining members, such commission to have entire charge of all questions of education, both preliminary and professional.

I do not believe that it would be difficult to get the various professions of the State to endorse such a movement. The difficulty, as I understand it, is in the relations existing between our small colleges and our great universities. But it would do away with all annoying questions arising with boards of examiners over preliminary education, as every student appearing before them for examination would have to present a certificate from the commission, showing that he had received a proper preliminary education.

While this is a large problem, it certainly is one for study and solution in the near future. So many abuses have crept into our present plan that the degree granting institutions must get together. If we had such an educational commission, of which the Governor was ex-officio president, it would take away, in large degree, the objections which are urged against boards nominated by the professions.

There are innumerable advantages which would accrue in closer relations between our educational schools and our professional boards. They could be of immense assistance to us, and at the same time could better understand and appreciate our needs if we are associated in some such commission as has been suggested, but I will not take up more time with details.

It is to be hoped that this wave of re-organization will go on until some of these ideals at least have become facts. Almost every physician has felt the desirability of closer relations with our boards of health and boards of examiners. The profession is beginning to awake from the animosities which have so often estranged its members and weakened its influence. It has begun to take hold of the complicated problems of our

new civilization, and seek their solution. Our new plan of organization is patterned after our system of civil Government, and is in no sense an experiment. It is sufficiently elastic to provide for any scientific advance. It is designed to make each member a useful unit in collecting data and placing it properly before the profession. When each state in this great Union has adopted the plan, the problems of preliminary education; the conferring of degrees and granting of licenses; of reciprocity between States; the relation of the profession to Boards of Health, and to the problems of sanitation and preventive medicine; the relation of physicians to each other and to the public, will be made easy. We will develop medical statesmen whose greatest duty and pleasure will be to lift our noble calling to that high plane so long desired.

This reorganization will evolve the new physician, who is so true to himself and his fellow man that he can co-operate in every good and just movement.

Let us show to the public, by our frank and fair criticism, our high ideals and our noble impulses, that we are prepared by liberal education and thorough training to guide and control all the problems of medical education, health regulation and sanitation, both public and private, as well as to bring to the bedside the science and art which will relieve pain, ameliorate suffering and cure disease.

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#### THE POWERS AND LIMITATIONS OF THE PHYSICIAN AS DISTINGUISHED FROM THE SURGEON.

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BY WM. E. QUINE, M. D., CHICAGO, ILL.  
Address before the Section on Medicine delivered at  
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The processes of surgery are so direct and plain as compared with the less obtrusive and more complex processes of medicine that it is not surprising a question arises now and then in the minds of those of our profession who have not given due consideration to the subject, concerning the value of medicinal therapeutics to the sick.

It is not uncommon to hear from the lips



of such persons the declaration that they "haven't much confidence in medicine;" or the dogmatic and discrediting statement that "medicine is powerless to affect the course or the mortality rate of self-limited infectious diseases, such as pneumonia and typhoid fever."

It is the purpose of this paper to set forth in general terms the range of power and the limitations of therapeutics, with especial reference to medicinal therapeutics, in the hope of prompting the more voluble and opinionated of these brethren to do a little thinking before giving utterance to statements which are not only without foundation in fact, but are directly injurious to the standing of the entire medical profession.

That the subject of therapeutics is being neglected in our medical colleges, in consonance with a widespread tendency in the profession toward therapeutic nihilism, is painfully apparent. Of the medical practitioners I know, and particularly those who "don't believe much in medicine," comparatively few are well grounded in the therapeutic art and not one in ten is able to write prescriptions correctly; and in the recent competitive examination for appointments to the house-staff of the Cook County Hospital, Chicago, of the seventy-two participants, representing the flower of the graduating classes of the best medical colleges in Chicago, there was not one who showed ability to earn a higher rating than fifty on a scale of one hundred in this fundamental requirement, and not ten who showed ability to earn a higher rating than twenty-five.

What is left unsaid in this connection of the inferior graduates of inferior colleges, is suggested as food for reflection.

Now, is it, in truth, a matter of no consequence to a pneumonia or a typhoid fever patient whether he have as his physician the most enlightened member of the profession, or the most ignorant?

Look for an answer to the facts of universal knowledge: Some members of the profession are habitually overwhelmed with calls for their services, and others go through life appealing in vain for even a comfortable amount of the recognition and favor of the

world; some are eagerly sought in consultation by their brethren on account of therapeutic skill and others never; and when the professed therapeutic nihilists themselves are sick they swallow medicines as eagerly as anybody and ask as few questions.

Before undertaking to expound the problem we must make sure that we agree upon its terms.

The word "cure" (from *cura*) means, etymologically, "to take care of;" and it is used in this sense today by the physicians and the most intelligent laymen of continental Europe. The expression, "To cure a patient till he dies," does not seem absurd to such people.

Conventionally or derivatively, however, the word signifies, "To restore to a healthy state."

In this sense do medicines cure diseases and, specifically, do they cure infectious, self-limited diseases, such as pneumonia and typhoid fever?

They do.

It is not claimed that medicines can interrupt the succession of steps or stages constituting the natural history of such a disease.

It is not claimed that the therapist can put an end to it at all by direct force of medicinal action.

But it is claimed that he may promote natural processes which tend to, and finally effect, the re-establishment of health; and that, in some cases re-establishment of health would not occur without his assistance. In that sense medicines "Restore to a healthy state."

The limitations of medicinal influence were as clearly recognized a thousand years ago as they are today; and the fact is exemplified in the old Latin line, "*Medicus curat, natura sanat morbos.*" (The physician cures, but nature heals.)

The physician, therefore, is merely nature's helper, and to help he must promote nature's processes, and never embarrass or try to supplant them.

Having thus guarded against misunderstandings, we are prepared to engage in the systematic exposition of the subject.

The fundamental elements of disease are

the *cause* and the *effects* of its operation. These effects are divisible into two groups,—morbid anatomy and morbid physiology. Each or either of these, the cause, the morbid anatomy and the morbid physiology, may be within the reach of therapeutic influence.

A. *The cause.* "Remove the cause and the effects will subside," saith the sage; and the truth of the proposition is exemplified every day in the cure of local and reflex disorders. But when the cause is a systemic infection, we cannot remove it except, possibly, in the case of malarial disorders and a very few others.

Nevertheless, in such cases, if it be true, as is generally assumed, that the gravity of the sickness depends on the degree of concentration of microbic poisons and the noxious products of metabolism in the blood, it would seem certain that we may lessen that gravity by diluting the blood and washing the poisons out of it.

I am sure there is large practical value in this idea, and that it does not receive the attention it deserves. Hygienic remedies are habitually neglected by many physicians in favor of routine medication, and always to the detriment of the patient; and in systemic infections one of the most valuable remedies is *water*. Given in typhoid fever, pneumonia and other disorders of like kind to the extent of causing an outflow of fifty or seventy ounces of urine daily, and of maintaining sensible perspiration besides; given by the stomach, by copious colonic flushings—a quart or more at a time, but always very slowly, and then repeated every six hours through a rectal tube left *in situ*; and given subcutaneously in the form of normal salt solution in cases of perilous urgency; water makes a decidedly favorable impression on many threatening symptoms and, apparently, by washing out the toxins which have been causing them—thus exemplifying the surgical concept of drainage.

I am also sure that the value of the hydratic treatment of febrile disorders introduced by Brand is owing, in no small measure, to the elimination of toxins by the kidneys, as shown by increased toxicity of

the urine, which has been proved in many instances to follow its use.

Water efficiently employed internally in systemic infections and intoxications lowers temperature, subdues delirium, promotes sleep, lessens circulatory and respiratory derangements, and conserves the strength of the patient; and it accomplishes these results, apparently, by acting on the cause. Evacuant medicines, and especially those of the saline class, may be employed with advantage in many cases as auxiliary remedies. Usually we can do no more than this in the direction of directly acting on the cause of an infectious disease.

B. *The Morbid Anatomy.* This is nearly always placed in improper contrast with morbid physiology and, in many instances, its importance is enormously overestimated. Too often it is regarded as "the disease," by the surgical apprentice. Measures addressed to its removal are usually, if not always, contemplated with great satisfaction by him—the satisfaction shining in the expression "radical treatment;" whereas, treatment addressed to the removal or mitigation of morbid physiology is contemptuously characterized as "merely symptomatic," as if it were a sham show of usefulness.—an obvious pretence of efficient life-saving service. We shall see.

It is freely admitted that, in numerous instances, the morbid anatomy is the only element of the patient's sickness of commanding importance. Such it is in gangrenous appendicitis, pus collections, neoplasms, hernias, invaginations and so on throughout the field of surgery; for surgery deals almost exclusively with morbid anatomy. And we make respectful and grateful acknowledgements to our brethren of the scalpel for the glory which their achievements in this field have shed on the entire profession—no mean part of which is due to the surgeons of our own State.

But morbid anatomy is not all there is of disease. It is often an insignificant element of it for, when it does not cause morbid physiology, it does no harm.

What harm is done by a valvular heart lesion when it does not interfere with normal



physiology? Who, of large experience, has not seen a dozen cases of that kind run on for ten or twenty years without the least disturbance of health?

It is morbid physiology that compels attention in such cases, and when the attention is given with the effect of sustaining the function of the diseased organ, the life of the patient is prolonged and made comfortable for many a year.

What harm is done by gall-stones, or by a movable kidney, or by a displaced uterus or ovary, or by pelvic adhesions, or by a neoplasm, when the condition causes no symptoms—another name for morbid physiology?

Should a patient be eviscerated under such circumstances, or be frightened into an operation for replacement and fixation of the displaced or abnormally movable organ? Not at all. Such practice is deserving of the sternest condemnation of the profession, for it furnishes too many examples of surgery for revenue only. And suppose a patient have pelvic adhesions, or what not, and in consequence thereof distressing dysuria or other kind of morbid physiology; and suppose that every vestige of distress is permanently relieved, without the morbid anatomy being changed at all, either through the agency of medicinal impression, or that of a profound mental influence, such as is exemplified at Lourdes, France, every day, and in the activities of the Christian Scientists of our own country—is not the cure just as genuine and just as radical as if the patient had been eviscerated?

This is not a fantastic picture. It represents facts of observation which can neither be ignored nor denied.

Morbid anatomy *may* be the only element of disease requiring attention, but there are many cases in which much morbid anatomy exists without causing ill-health or morbid physiology, or in which the morbid physiology having existed, disappears. In these there is no warrant for surgical interference, unless for the purpose of protecting the patient from liability to sarcomatosis or other formidable development in later life.

While the activities of surgery are, in large part, related to morbid anatomy, they are by

no means limited to that field; for surgery also renders valuable service in dealing with causes and morbid physiology. There are types of morbid anatomy, unfortunately, which by reason of location or nature are beyond the reach of the surgeon, and equally beyond the reach of the medical therapist. Indeed, it may be questioned whether the latter have any important influence on morbid anatomy, with few exceptions, when the medicines have to act upon it through the medium of the circulation. Iodine in actinomycosis, mercury and iodine in syphilis, arsenic in squamous diseases of the skin, iodo-thyroidein in myxoedema, and in cretinism, and the medicines used successfully in the treatment of inflammatory affections of mucous membranes, are among the most important exceptions now in mind. But when medicines are brought to bear directly upon morbid anatomy, they often affect it profoundly and determine the restoration or cure of the patient. This is the field of the medical specialist.

As to the internalist, he finds his greatest usefulness in the domain of

*C. Morbid Physiology.* When he can wield the weapons of his art with skill and effect in this field, he may well contemplate with composure the sneering criticism that his treatment is "merely symptomatic;" for he knows only too well that, in medical practice, symptoms or morbid physiology, due to toxæmia, often cause death when there is not enough morbid anatomy present to make any important impression on the tenure of life.

Contemplate the effects of a lethal dose of morphine, atropine or strychnine, and the life-saving influence of the physiological antidote of such a poison; and then say whether microbic poisons may not act and may not be counteracted in like manner.

Look at your case of pneumonia. Yesterday the patient was at the point of death, and today he is comfortable and out of danger. What has wrought the change,—disappearance of morbid anatomy? No, there is as much morbid anatomy today as there ever was. The change is due to arrest in the production of toxins and to

the destruction or elimination of those which had been circulating in the blood and causing "symptoms," or the derangements of function which we designate morbid physiology. The toxæmia and its consequent "symptoms" having ceased, convalescence is at hand.

If such derangements of function are mitigated by medicinal or hygienic influence—high temperature, delirium, pain, cough, insomnia, anorexia, vomiting, impaired digestion, dyspnoea, and failing circulation—while the toxins causing them are being eliminated as actively as possible, and the heart is kept going with the help of carbonate of ammonium, strychnine and caffeine till the process of intoxication comes to an end, are you ready to say that "the physician is powerless to influence the course or the mortality rate of the disease,—or of any other disease of like kind?"

It seems to me that the judicious treatment of "symptoms" is of mighty importance, and as genuinely life-saving or curative as any of the processes of surgery.

High temperature is a symptom,—and whether it be caused in a perfectly healthy person or animal by solar or artificial heat or appear in the course of an infectious disease, it may kill,—and it may be controlled,—safely by hygienic remedies, and unsafely by medicinal antipyretics.

Pain is a symptom, and it may kill,—or be controlled; and I think I have seen it kill in a few surgical cases,—the surgeon having withheld morphine because, forsooth, the morphine might obscure the symptoms of a peritonitis that was already known to exist, and, indeed, had been the basis of a laparotomy a while before.

Vomiting, purging and hemorrhage are symptoms; urinary suppression and the phenomena of uræmia are symptoms; ascites, anasarca, oedema of the brain and of the lungs are symptoms; insomnia, delirium, convulsions and coma are symptoms; the phenomena of respiratory and circulatory failure are symptoms; and they may kill,—or be controlled. Is symptomatic treatment to be despised, then? As a matter of fact, is it not as truly life-saving as any "radical"

treatment that was ever invented; and is not the physician as genuinely useful to humanity as the surgeon?

I repeat, no claim is made that medicines can interrupt the succession of events which constitutes the natural history of an infectious self-limited disease; but it is quite plain that such a disease may be "cured" by medicinal and hygienic agencies in the sense of being helped by those agencies to a favorable termination which would not otherwise occur.

But when an overwhelming dose of poison, whether medicinal or microbic, gets into the blood and cannot, at once, be eliminated or destroyed, its paralyzant effect goes on and on to the arrest of function and to consequent death, unhindered by any amount of physiological antidotes that can be brought against it; and when an advancing process of morbid anatomy that is beyond the reach of known therapeutic influences goes so far that not enough normal anatomy is left to maintain function even with the assistance of medicinal or hygienic remedies, the time and conditions are at hand which point to the limitations of therapeutic power.

The range of power of the physician has been greatly enlarged, of late, by the addition to his armamentarium of antitoxins, iodo-thyroidein, and the Roentgen ray, so that there is good ground for the hope that the laboratories of the biologist and physicist may in time outrank in beneficent productiveness the laboratories of the pharmacist.

We treat conditions,—not names; the man, not "the disease." Morbid physiology is morbid physiology, no matter how it is brought about, and we must deal with it and its cause without reference to the disease in which it occurs.

To "Obviate the tendency to death," as the old therapeutic philosophers expressed it, is the basis of all rational effort; and this is done many a time intelligently and successfully without the aid of clear conceptions of pathology or of extensive acquaintance with the revelations of the microscope, by hard-headed, sensible doctors.

There is many an unpretentious member of the profession who shrinks from a dis-



cussion of histology, and is silent in relation to the intricate problems of differential diagnosis, who has gone further than many professors and many makers of books into the domain of therapeutics, and can put them to shame in respect to familiarity with the resources of the curative art, and capacity to wield them with discrimination and success.

### CLINICAL EXPERIENCES IN SURGERY OF THE GALL BLADDER AND DUCTS.

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During the past twenty years the surgery of the gall bladder and ducts has received the especial attention of so many of the ablest surgeons of this country and of Europe that at the present time those who have worked extensively in this field have come to look upon many important features of gall stone surgery as practically settled.

The additions which have been made in the development of this subject by Courvoisier, Terrier, Robson, Riedel, Kehr and many others abroad, and Fenger, Mayo, Brewer, Richardson and others in this country,—a number of important facts having been brought out by members of this association,—have been so frequently and thoroughly discussed that those who are especially interested in gall bladder surgery are very familiar with these facts. It may consequently seem unnecessary once more to occupy the time of this society in the consideration of this subject.

It is, however, important that our attention be directed again and again to this subject until every practitioner of medicine shall be alive to its importance as thoroughly as the surgeon whose constant contact with this clinical condition prevents him from overlooking these cases in his practice.

That at the present time these cases are overlooked very commonly is shown by the fact that more than one-half of the cases

whom we have operated for the relief of gall stones have been treated for many years by a number of physicians for gastritis or gastralgia or enteritis, no diagnosis of gall stones having been made. A few years ago quite a proportion of these cases came to the hospital with a diagnosis of intestinal indigestion, but gastritis is a much more common diagnosis.

There is, however, another reason which makes it desirable especially to the patient that every practitioner's attention be directed to this subject.

In every patient suffering from gall stones there is a time when this condition can be diagnosed while it is still possible to relieve the condition with ease and without any great danger to the life of the patient. There is a time when a simple cholecystostomy with drainage of the gall bladder will give the patient permanent relief. This is at a time when the gall stones are still confined to the gall bladder before they have given rise to an inflammatory condition of the cystic duct or the common duct, before there has been a secondary infection of the liver or the pancreas, before there has been an obstruction of the common or cystic duct with their dangerous sequelae.

There can be no doubt from what clinical experience has taught us that practically all of these and other complications, which will be discussed later on, could be prevented if the attention of every practitioner were so thoroughly directed to this condition that the earliest possible diagnosis would regularly be made. I have observed many times that a practitioner whose interest had been aroused by observing a considerable number of these cases during his post-graduate work would return to his home and his practice and find among the cases he and his colleagues had treated for years for gastritis many patients suffering from gall stones. Had his attention not been thus directed toward this condition he would undoubtedly have continued treating these cases for the wrong disease. This was not due to the difficulty of making a correct diagnosis, but to the fact that they were not watching for gall stones.

If then this effort will serve to prepare some one to find this condition where it exists, it will have abundantly served its purpose, although it may contain but few new facts.

Regarding the etiology it is necessary to mention but two conditions, first, interference with drainage of the gall bladder and, second, infection.

The latter condition should be considered secondarily, because primarily without obstruction to the drainage infection is almost impossible for the free flow of bile washes away the infectious material so rapidly that there cannot be a sufficient accumulation from development of micro-organisms in the gall bladder or ducts to be of any practical importance as has been shown by Netter.

Moreover, normal bile when in the gall bladder or ducts free from obstruction is so poor in nutrition (Birch) that micro-organisms cannot flourish. This, however, changes as soon as there is an obstruction, because the mucous which at once begins to accumulate contains an abundance of nutritious material for the support of micro-organisms.

For these reasons normal bile is ordinarily sterile, (Naunyn) while in the presence of disease of the gall bladder in which there exists partial or complete obstruction micro-organisms are always present. The same is true in the gall bladders in which there has been produced an artificial obstruction by ligation of the common duct after a period of twenty-four hours, (Netter.)

This obstruction is, however, in turn the result of an inflammation which may be produced by an infection of the mucous lining of the common duct from the inflamed mucous lining of the duodenum. This is probably the most common source of obstruction.

Another cause of obstruction which is not uncommon results from the fact that during the presence of an acute peritonitis due to appendicitis, salpingitis, puerperal infection, ulceration of the stomach or duodenum with threatened perforation or during typhoid fever the omentum becomes adherent to the gall bladder and this draws down the fundus of this pouch and causes it to be-

come sacculated. This tension may even cause a certain degree of torsion of the common or the cystic duct, thus favoring the accumulation of residual bile, which when mixed with the mucous secreted by the glands in the lining of the gall bladder makes a better culture medium for micro-organisms.

With these conditions present the most common cause of dangerous obstruction to the bile passages namely, gall stones, is readily produced.

Singularly enough, the mere presence of gall stones is again a comparatively harmless condition so long as the mucous membrane is otherwise relatively normal i. e. so long as there is present neither obstruction nor infection. Here again, usually the obstruction comes first.

It is, however, to be remembered that in any case in which gall stones are actually present obstruction is much more likely to occur than in normal conditions, because the gall stones may enter the cystic or the common duct, or a gall stone may cause an obstruction by acting like a ball valve, (Fenger.)

Aside from this, however, the common or the cystic duct or both are usually impaired to some extent after recovery from the primary condition which gave rise to the formation of gall stones.

The infection which accompanies these secondary conditions is usually much more violent than the primary infections giving rise to the formation of gall stones.

#### DIAGNOSIS.

In order to secure surgical treatment of diseases of the gall bladder and ducts at a time when it can be safely applied before the patient has suffered from the dangerous secondary conditions it is necessary to make a diagnosis before the symptoms which once were alone considered diagnostic have appeared. These symptoms are: first, severe gall stone colic; second, severe icterus; third, clay colored stools and fourth, passage of gall stones.

It is true that these symptoms should be looked for and when found they should be



utilized in making a diagnosis, but it is equally true that in more than half of all patients suffering from a surgical disease of the gall bladder or ducts one or more or even all of these symptoms are absent.

It has been stated over and over again that a large proportion of patients who have gall stones do not suffer because of their presence. That this is a mistaken idea, I believe has been conclusively proven in the following manner.

In all patients coming under my care who had gall stones, but who had none of the above symptoms in a sufficiently marked degree to have caused a diagnosis of gall stones before they came under our care, we questioned carefully as to their suffering. They usually answered that they had never suffered from gall stones, but severely from gastritis for which they had all been unsuccessfully treated by several physicians.

This fact led me some six years ago to look up a number of patients whom I had referred to the practitioners of internal medicine for the treatment of gastritis and found that most of them were suffering from gall stones, some of them of pyloric obstruction and a few of them from appendicitis.

These patients in other words suffered both from gall stones and from a diagnosis of gastritis or the useless attempts of its treatment by non-operative measures.

This fact has led some to suspect gall stones in all cases in which severe gastric disturbances could not be permanently relieved by internal treatment in the absence of pyloric obstruction, due to ulcer or carcinoma and in the absence of obstruction lower down in the alimentary canal, due to appendicitis or peritoneal adhesions due to any other inflammatory cause. Patients suffering from gastric disturbance due to a neurotic condition should also be eliminated.

At this point it seems proper to direct attention to the fact that there is in the presence of gall stones frequently a physiological obstruction in the duodenum at a point just below the entrance of the common duct. My attention was first drawn to this fact by observing a dilated condition of the duo-

denum above this point in many of these cases.

This has been further confirmed by making a chemical analysis of the vomited matter in a large number of cases. To my surprise, I found that with the exception of cases in which the common duct was completely occluded, the vomited matter contained bile in every instance, showing that the act of vomiting does not begin at the pylorus, but at a point in the duodenum below the entrance of the common duct.

The frequency of the occurrence of duodenal ulcer above this point and the rarity of its occurrence further down would still further bear out this theory.

Another clinical fact of enormous practical importance has been observed in a large number of cases in the series upon which this paper is based and would further bear out this theory. It was found that in cases of severe acute biliary colic the pain could be stopped within a short time, usually within an hour, by simply irrigating the stomach thoroughly through a stomach tube with warm water. This was true even in cases in which large doses of morphia given hypodermically had failed to give relief.

In these cases pain did not recur unless some form of nourishment was placed into the stomach which would be compelled to pass this point in the duodenum. That this is an actual clinical fact has been proven in a considerable number of cases by removing the gall stones from the gall bladder or ducts after the acute attack had subsided. Were it not for these further observations one might readily suppose that the patients had indeed suffered from gastritis, and that their pain disappeared because of the removal of the irritating stomach contents.

1. The first symptom then to be considered in point of importance is pain in the region of the stomach accompanied with digestive disturbances.

2. This is accompanied with pain extending around to the right at a level with the tenth rib and often extending upward underneath the right shoulder-blade. In case there is present a secondary pancreatitis this pain may extend to the middle of the back

or even to the left of this point, but this is a secondary condition.

If the pain is primarily in the middle of the back or to the left of this point with the other symptoms the same it usually indicates an ulcer on the posterior wall of the stomach.

3. There is a point between the inner end of the ninth rib on the right side and the umbilicus which is painful upon pressure, (Robson.)

4. There is usually some enlargement of the liver.

5. Many of these cases give a history of typhoid fever or appendicitis or both.

6. In many of these cases there is a slight tinge of yellow in the skin, although there is no distinct icterus. This is true especially when the patient claims to be bilious.

7. There may be an enlargement in the vicinity of the gall bladder. This may be so marked as to give rise to the diagnosis of a tumor and it may be so movable as to be diagnosed a floating kidney, or so large as to be mistaken for an ovarian cyst.

#### TREATMENT.

It would be far too tedious were I to review here the histories of nearly four hundred cases of diseased gall bladders or ducts which I have operated, but a review of these cases confirms most strikingly many of the conclusions at which other surgeons have arrived and which it may be well once more to emphasize.

1. A review of these histories shows that interval operations are exceedingly safe, no matter in what portion of the gall bladder or ducts the gall stones may be located, provided free drainage of the gall bladder or ducts is established at the time of the operation, and provided also that the amount of traumatism has been reduced to a minimum.

2. Conditions are favorable for free drainage because the persistent partial obstruction to the flow of bile previous to the operation usually causes a certain amount of hepatic enlargement and as soon as free drainage is established, permitting the entirely unobstructed flow of bile, the latter appears in great quantities and washes away any small amount of infectious material

which may still be formed in some portion of the biliary tract.

3. The introduction of this element in operations for stone of the common duct by Davis has resulted in a remarkable improvement in the results in this class of cases after operation. Mayo, Kehr and most surgeons of the widest experience lay especial stress upon this feature.

4. For a time this was not sufficiently appreciated in cases in which cholecystectomy was performed, but experience soon demonstrated that in cases in which the cystic duct had not been completely occluded previous to the operation it was not a safe matter to remove the gall bladder without draining the common or the hepatic duct.

5. Acute cholangitis is readily caused by the backing up of infected bile into the liver following an operation in which proper provision has not been made for free drainage and in which there existed at the time of the operation a certain amount of obstruction to the common duct.

6. The importance of limiting the manipulations as much as possible during the operation should be emphasized because much depends upon this. Primarily the shock is greatly reduced in this manner and secondarily the likelihood of infection is greatly reduced. Ordinarily, probing of the ducts is dangerous. I have seen several exceedingly severe infections result from this practice. It is much better in cases in which one cannot make a satisfactory examination of the common duct by palpation to make a longitudinal incision sufficiently long to introduce the end of the index finger for exploration, than to attempt accomplishing this by probing.

7. Common duct operations can be made with much less manipulation if one follows the suggestion of Mayo-Robson in placing a thick, round pillow transversely across the back opposite the tenth rib and has the lower edge of the liver elevated by an assistant. The long incision recommended by Bevan is very valuable in connection with this position. This places the common duct in an almost straight line with the gall bladder and the cystic duct and greatly re-



duces the depth at which one is compelled to work.

Another means of reducing the manipulations to a minimum can be found in the systematic examination of the gall bladder, the cystic, the hepatic and the common duct as soon as the abdomen has been opened, in order to determine the exact condition before the plan of treatment is chosen.

This can best be done by introducing one finger of the right hand into the foramen of Winslow and pressing upon the ducts anteriorly with another finger. If the adhesions are too firm or too general one can often accomplish the same end by introducing the index finger of the left hand above the ducts and pressing against it with the thumb from below. Occasionally one can palpate the ducts more satisfactorily by turning ones back toward the patient and introducing the index finger of the right hand above the common duct and pressing against it with the thumb from below.

Having once determined the exact pathological condition present the remaining steps can be clearly planned with a view of reducing the traumatism to a minimum.

If the gall bladder is large and distended with bile and gall stones, with the ducts free, the gall bladder is thoroughly isolated with gauze pads, then the bile is aspirated through a trocar two or three millimeters in diameter, then the puncture is enlarged, a gauze strand is packed loosely into the cavity of the gall bladder and withdrawn several times until all of the bile has been evacuated, then the stones are removed with a dull curette. The cavity of the gall bladder is then explored with the finger and if found empty it is loosely packed with gauze and sutured with catgut to the upper angle of the wound. The sutures are placed one or two centimeters from the edge of the opening according to the size of the gall bladder and are passed down to, but not through, the mucous membrane. They grasp the peritoneum and the transversalis fascia in the abdominal wound. After four to six days this gauze is withdrawn and a rubber drainage tube is inserted which remains in place until the bile appears perfectly normal, usually from

two to four weeks, when the fistula is permitted to heal spontaneously.

If the gall bladder contains stones, but is strongly contracted, the same operation may be performed, unless the cystic duct is obliterated, in which case it is usually better to grasp the remnant of the cystic duct with two pair of hemostatic forceps, cut between these and dissect the gall bladder together with its stones from its attachment to the liver, being careful, however, not to cut into the latter organ. The lower forceps compress the cystic artery which makes the operation practically bloodless.

The portion caught in the lower forceps may be ligated or the forceps may be left in place and permitted to protrude through the upper angle of the wound for forty-eight hours, when they may be removed. If these forceps are left on, however, they should be of a pattern which is sufficiently elastic not to cause pressure necrosis, and still firm enough to control hemorrhage.

The same operation may be done if the cystic duct is not completely closed, but in which the gall bladder seems sufficiently impaired to make its removal desirable, but in these cases the cystic artery should be caught in hemostatic forceps and the cystic duct should not be ligated. A rubber drainage tube should be introduced through the cystic duct into the common duct and held in place by means of a fine catgut suture. The tube should fill the lumen of the cystic duct as accurately as possible and a strand of gauze should be loosely sutured to the duct just below this as a further protection.

The same operation is indicated in case of an impaction of a gall stone in the cystic duct with indications of ulceration, making a future obstruction due to cicatricial contraction probable.

My own experience bears out the observation of many other surgeons that one never regrets having drained in these cases, while one often regrets having neglected this precaution.

Occasionally one encounters a contracted gall bladder with a partial or a complete obstruction of the cystic duct in which there are so many adhesions that an excision of the

gall bladder seems an unusually hazardous undertaking. If a simple cholecystostomy is made in these cases it is likely that a fistula will persist which will discharge mucous secreted by the lining of the gall bladder, or this fistula will close from time to time only to reopen after the gall bladder has been distended with mucous. Each time the opening is preceded by a period of suffering.

In this class of cases Mayo's operation of enucleating the mucous lining of the gall bladder can usually be carried out without much difficulty. This operation is performed in the following manner. A circular incision is made around the gall bladder about two to four centimeters from its upper end down to, but not through, the mucous membrane. The bleeding vessels are caught and ligated and then the mucous membrane is dissected out bluntly and when the cystic duct is reached it is cut off. Any bleeding vessel is caught and ligated and a drainage tube is inserted into the funnel thus formed and fastened in place with a fine catgut suture. A gauze drain is applied around this and also fastened in place with a fine catgut suture. The gauze is removed in a week or ten days and the drain is left in place so long as there is free drainage.

In many of the cases in which there are strong adhesions to the shrunken gall bladder the latter contains a small amount of pus and it is consequently wise to tampon away the surrounding structures carefully in these cases in order to prevent infection.

In case the obstruction to the cystic duct is due to the impaction of a conical gall stone in the neck of the gall bladder it is sometimes possible to lift this stone between two fingers and to permit a portion of the mucous and pus to escape into the duodenum through the cystic duct before inserting a trocar and removing this fluid from the distended gall bladder. There is no harm in this and it is safer to puncture the gall bladder after the tension has been reduced by evacuating some of the fluid in this manner.

After the pus and mucous and the gall stones have been removed from the gall bladder in these cases there is usually a free

flow of bile which indicates that the cystic duct is again patulous.

A few years ago there was a tendency toward making a cholecystectomy in all of these cases, but it seems as though the results are better with cholecystostomy, unless the conditions are such as to make the occlusion of the cystic duct likely.

#### CHOLEDOCHOTOMY.

If the gall stones are in the common duct a choledochotomy is indicated. In a few cases I have succeeded in forcing the stones back into the gall bladder, but this is not usually safe. Crushing stones in the common duct is equally unsafe. It is best to place the patient in Mayo-Robson's position, apply a fine catgut suture to the common duct above and below the point at which the stone can be felt, to fix the gauze and the drainage tube later on, then insert one or two fingers behind the common duct, press it forward and make a longitudinal incision sufficiently long to insert a finger for exploration.

The stones can then all be removed by means of a blunt curette and then a rubber drain can be inserted into the common duct and held in place by one of the fine catgut sutures previously applied. A strand of gauze is placed about the lower and anterior surface of the common duct and permitted to protrude from the upper angle of the wound together with the drainage tube.

These precautions make the removal of stones from the common, the cystic or the hepatic ducts almost as safe as the removal of stones from the gall bladder, provided the operation is not performed during the time of an acute attack of gall stone colic which always means an acute inflammatory condition.

Fortunately it is almost never necessary to operate during the time of an acute exacerbation because this will almost invariably subside within a short time, provided the element of rest is introduced which was mentioned in the earlier part of this paper.

In a large number of cases of acute gall stone colic in this series of cases upon which this paper is based I have had an opportunity to test the usefulness of rest in overcoming



the pain and in causing the acute inflammatory condition to subside. This is accomplished by performing gastric lavage with hot water until all of the remnants of food and mucous have been irrigated out of the stomach and then prohibiting the introduction of anything by mouth until the attack has completely subsided.

In many cases in which large doses of morphia given hypodermically failed to relieve the pain, the latter subsided in from one to two hours by the use of this simple method. This was true in impaction of gall stones in the gall bladder, in the cystic duct or in the common duct. In three cases of perforation of the gall bladder the infected area was completely separated from the general peritoneum by the omentum and the patients who entered the hospital in a desperate condition recovered after the circumscribed abscess was opened and drained and the gall stones removed.

In one case of impaction of an enormous gall stone in the gall bladder with acute pancreatitis with diffuse fat necrosis the pain did not subside. The abdomen was opened, the gall stone removed and the gall bladder drained. The patient died ten days later from hemorrhage from the mucous lining of the duodenum.

In a number of cases of gangrene of the mucous lining of the gall bladder the pain subsided at once upon instituting this treatment. In one case the pain had subsided completely when a small amount of orange juice was given, contrary to orders, which caused a renewal of most violent pain, which again subsided at once upon making gastric lavage and prohibiting food. Four days later the patient was normal, but had received nothing by mouth. In order to prevent a recurrence of the attack she was operated and a stone was found impacted in the neck of the gall bladder whose mucous membrane was gangrenous and at a point one centimeter in diameter at the upper end of the gall bladder there was a perforation closed with omentum.

It is of course impossible to state whether this perforation took place during the first attack or during the recurrence caused by

the ingestion of the orange juice, but the adhesions were so recent in character that they must have occurred during the present attack and still the simple use of rest had resulted in an immediate relief of pain which had not subsided with the use of large doses of morphia given hypodermically.

Time will not permit the discussion of complications nor the analysis of the cases upon which this paper was based. The classification and statistics of these cases have already been published in part and will be more fully published in a more complete discussion of the subject at a future time. The object of the present paper is to direct attention to the importance of early diagnosis before serious complications have occurred and to the treatment of acute gall stone colic by the application of complete rest which can be accomplished by the use of gastric lavage and the prohibition of food.

#### GALL STONES—PAST, PRESENT AND FUTURE.\*

BY J. L. WIGGINS, EAST ST. LOUIS, ILL.

*Past.* The shadows of the past so overlap the present in the consideration of "lithiasis" that it is difficult to draw a line of demarcation.

From a text book published in 1886, at that time an authority upon the subject, I note the following conclusions: "The diagnosis is not definite unless calculi can be demonstrated in the faecal washings although repeated attacks of biliary colic followed by cholemia would indicate that a stone had been arrested in transit, or that the inflammation to the mucous lining was so extensive as to interfere with the free passage of bile." In speaking of other conditions resulting from the pathological involvement he states: "The presence of tumefaction and redness indicate the direction which the pus is taking toward the surface, which, with the formation of cutaneous biliary fistulae is the much desired outcome; otherwise fever continues, gastro-intestinal

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derangement occurs, a typhoid state ensues, followed eventually by death."

With a diagnosis in such an unsatisfactory condition and with a prognosis based upon a lucky chance of cutaneous biliary fistulae or gall bladder intestine adhesions and perforation, it is not surprising that the treatment was equally unsatisfactory consisting of "Tonics, Quinine, Morphine poultices and as a last resort Cholesystotomy."

As a matter of interest we will state that this article is from the pen of a gentleman who during the past year has shown the degree to which he has been divorced from his former erroneous ideas, by an early diagnosis of a simple cholecystitis and a courageous insistence upon an immediate operation for its relief, accepting the responsibility of both diagnosis and result.

There could be no greater contrast between what was and what is to be, than the evolution here pictured.

Diagnosis and treatment take precedence in the view point of the past on account of the prominent position accorded them at this period of our investigation.

Its etiology gave full scope to the maze of transcendentalism—habits, water, diet, vocation, heredity, hydatids, tumors, injuries, and especially humoral excesses or deficiencies, any suggestion from any source was considered of sufficient interest to receive at least honorable mention.

The real pathology of lithiasis was an unexplored field; its "effect" was usually ascribed as "cause" and "cause" as revealed, gave little hope of relief.

*Present.* Were we to mark the point when the past became separated from the present, we would doubtless designate the time when all causation factors were eliminated except that of infection. This may seem a broad statement, yet for all practical purposes it is true. It might be noted that the knowledge was not utilized until years after its correctness was proved. The present advanced understanding of choletithiasis recognizes that there must necessarily exist at some previous period a primary infection; that accompanying, or following this infection there is an impediment to the normal

flow of bile; whether this condition resulted from the involvement of the membrane of gall bladder and duct, or was invited by malposition, pressure, or derangement of nerve supply, are matters having but little bearing upon its treatment. Sufficient time has elapsed, and sufficient number of cases treated, from which reasonable deductions can be drawn as to the correctness of these conclusions:

1st. That the gall bladder is a dispensable organ.

2d. That infection always precedes calculi formation.

3d. That pathological conditions are the result, and not the cause of lithiasis.

4th. That a recognition of these truths, in connection with the fact that a free discharge of bile aborts infection, and that many of the pathological sequelae are relieved naturally, compels attention to this, that the only logical method of treatment is early interference, if early—safe, simple, satisfactory—if later, more radical, more difficult, less satisfactory.

The facts herein stated are common property. One would suppose they were generally understood and widely applied. It requires but a cursory investigation to convince the inquirer that such is not the case. A current medical writer, expressing the fear that our pathological museums, unless supplied quickly, will miss a wealth of material illustrative of the ravages of choletithiasis, need not cause immediate alarm.

Seed sown on virgin soil takes deep root.

The pathognomonic idea is as yet too firmly ingrafted upon the average medical mind to be easily uprooted—in addition, the natural channels of egress are still courted, and will continue to be courted most assiduously, whilst humoral correctives and calculi solvents, find votaries in the ranks of the most intelligent.

The task presented to the pioneers in this line is not unlike that which confronted them in the campaign of education on the subject of "Appendicitis;" even here, with one decade of passive and one of active aggressive work, the lesson is but half learned and illy understood. If a disease which has



attracted such universal attention, which invokes primarily an organ in a fairly constant location, easy of access, having few conflicting reflexes, and so few neighboring organs which cannot be eliminated by exclusion, is involved in such doubt and mystery, as to almost exclude a primary operation, we need not be surprised if a disease, less acute, but none the less fatal, located in regions difficult of access, closely associated with neighboring organs with reflexes which overlap and are varied and misleading, be not recognized by the general practitioner, previous to extensive pathological changes, or if recognized will not impress with force sufficient to occasion a courageous insistence upon early operative measures.

*Future.* As many of the opinions of the past concerning the etiology, pathology, diagnosis and treatment of lithiasis have undergone a complete revolution, so many of the opinions now held sacred will in the near future be proven false.

Probably among the first to succumb will be that almost universal idea, constantly reiterated that stones may form and fill the gall bladder occupying this viscus for years without there being a suggestion of their existence.

Probably as time advances we shall have to admit, that, owing to our own incapacity their language was misinterpreted. We were misled by the echo.

Many will remember the answer to a query propounded to the Mayos as to the source of supply of their numerous gall stone cases.

During the past few years others have been finding them, and finding them in cases ordinarily classed as neurotics. Even this great advance should not satisfy. The question occurs, if a condition now so plain was so lately obscure, is it not possible to go farther, diagnose the initial infection and provide means to prevent calculi formation?

It is not entirely satisfactory to plead "early operation" after the calculi have caused riot. Doubtless the infection, no matter how mild, through absorption affects the entire economy.

Dare we predict complete recovery from its remote effects?

The treatment of the future will be completely removed from the domain of medicine; this much is assured by our present experience.

Among the indirect benefits will be a simplification of our nomenclature; this is no slight relief to the general practitioner.

Early recognition will require drainage only.

No one symptom will be depended on as an infallible indication of the nature and extent of the lesions, whether it be the Mayo, Robsons or others which have been advocated as pathognomonic.

A condition which indicates infection or calculi of the gall bladder and ducts, will indicate the necessity of incision for the purpose of exploration.

Upon this one point hangs the progress of the future.

There is little danger of the criticism "Surgery gone mad," such as was justly applied to the former sex despoilers in ovarian surgery.

We now recognize that nearly 80% of the stomach troubles originate in Appendicitis, Gall-Bladder, Kidneys or some form of Hernias. Frequently it is impossible to separate the tangled skein of nerve reflexes. Those who are reasonably expert will not care to await postmortems for enlightenment, when by a small incision devoid of danger relief can be assured.

### CHOLECYSTITIS.\*

BY M. L. HARRIS, M. D., CHICAGO.

To modern aggressive surgery is due the credit for most of our present knowledge of Cholecystitis. True, gall stones and inflammation of the gall bladder have been known so long as the records of medicine have been kept, but a correct clinical history has only been written since the surgeon has opened up this region to inspection and palpation.

It was then found that many supposed diseases of other organs particularly the

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stomach, which had been classed and treated from time immemorial as medical affections were really due to inflammation of the gall bladder, and attendant sequelae.

Cholecystitis and gall stones commonly co-exist, but this is by no means an invariable rule.

Attention was first directed to the frequency and importance of chronic cholecystitis independently of gall stones by surgeons operating under the impression that gall stones were present.

On opening the gall bladder, no stones were found, but unmistakable evidences of chronic inflammatory changes were disclosed to which the symptoms complained of were due. These facts lead to a more careful study of this class of cases, with the result that we are now able to correctly interpret numerous symptoms which previously had been erroneously ascribed to a variety of causes.

There is quite an analogy between cholecystitis and appendicitis not only as regards the manner in which our knowledge of the two conditions has progressed, but also clinically.

We may thus meet with the most acute cases perforating into the peritoneal cavity with the production of a general peritonitis, or with chronic cases extending over a period of years, and manifesting themselves by irregular periodical exacerbations of symptoms.

While it is not always possible to draw a sharp line clinically between cases of cholecystitis without the presence of gall stones and those with gall stones, still it is the desire of the author at this time to emphasize the importance of the inflammatory changes and symptoms *per se* rather than the secondary or mechanical effects of the stones.

Gall stones play in these cases a double role; they are the result of antecedent inflammation and may perpetuate a chronic inflammation or excite acute exacerbations by the mechanical irritation which their presence produces.

The inflammatory changes are probably always due to the presence of microbes. These may reach the gall bladder through

the circulation or from the intestinal canal. While the latter route is considered the more common by most observers, still the former should not be under estimated.

It is remarkable how quickly micro-organisms injected into the jugular vein can be recovered from the bile, showing that they are eliminated from the blood current at once by the liver. This accounts for the frequency with which we find cholecystitis associated with the acute infectious diseases, such as pneumonia, typhoid fever, etc.

The microbes most frequently found in the gall bladder are the colon bacillus, the typhoid bacillus, the ordinary pus cocci and the pneumo-coccus. In addition to the essential factor, the microbes, certain predisposing factors are of importance. These latter act by favoring stagnation of the bile in the gall bladder, thus affording an opportunity for the bacteria to lodge and develop, for while formerly it was thought that the bile possessed germicidal properties, later experiments have shown this to be practically nil under ordinary circumstances.

The length of time which certain micro-organisms may persist and live in the gall bladder after this organ has once been infected is truly remarkable. For instance, the typhoid bacillus has been recovered from the gall bladder in chronic cholecystitis with gall stones five, ten, fifteen and even eighteen years after an attack of typhoid fever.

The author recently obtained from a chronically inflamed gall bladder with gall stones, a growth which gave all the characteristic culture reactions of the typhoid bacillus and it was the only microbe found.

The patient, a man, 45 years of age, gave a history of having had typhoid fever 18 years previously.

While the typhoid bacillus usually gives rise to chronic cholecystitis following the fever, it may rarely be the cause of an acute inflammation as the initial symptom.

In November 1902, the author saw in consultation, a man aged about 36 years who a few days before had been taken with an acute pain in the region of the gall bladder extending to the epigastrium. There were chills, vomiting and a temperature reaching to



103.5 F. Examination disclosed just below the tip of the right ninth rib a distinct mass which was very sensitive and tender and over which the skin was quite red and pitted slightly on pressure. The patient was removed to the hospital with a view to an operation. A blood examination was then made and showed not a leucocytosis as had been expected, but a leucopenia, namely, only 5,600 whites. This immediately suggested the possibility of typhoid and operation was deferred. The local symptoms all subsided. Widal's reaction was positive and the patient passed through an ordinary attack of typhoid fever.

The diagnosis of acute cholecystitis when the characteristic symptoms such as those just mentioned are present is not difficult, but at times, particularly when perforation has taken place it may be very difficult to differentiate the condition from an acute appendicitis or a perforation of a gastric or duodenal ulcer or even an acute intestinal obstruction as numerous cases in the literature demonstrate.

The chronic cases, however, owing to their much greater frequency and owing to the fact that they are often misinterpreted, are the most important.

These cases often run along for years with a diagnosis of stomach trouble or dyspepsia with irregular attacks of acute gastritis, bilious attacks, or gastralgia, etc.

These patients have attacks of pain in the epigastric region and just below the right costal arch, sometimes radiating toward the umbilicus or into the back.

The attacks may be light or so severe as scarcely to be distinguished from actual biliary colic due to the passage of gall stones. The pain may last from a few minutes to a few hours or a day or two, and is frequently relieved by vomiting. During the attack, there is always marked tenderness in the region of the gall bladder, and even in the intervals there is usually a tender spot about midway between the tip of the ninth rib, and the umbilicus.

Jaundice is not a feature of the condition except when there is a co-existing involvement of the bile ducts. During the interval

between attacks these patients usually are quite well but have to be constantly dieting lest some indiscretion precipitate an attack.

As illustrating this variety of the disease the following case may be mentioned. J. M. age 31, married, car conductor. At 15 years of age he says he was sick for about three months with what was called typhoid fever, otherwise has had good health. Present trouble began about six years ago with attacks of pain in the abdomen. The onset of these attacks was characterized by severe cramp-like pain under the right costal arch. At first the pain would be relieved by lying flat on the abdomen but later they were only relieved by emptying the stomach. Relief usually came within a few minutes after vomiting.

In 1897 and '98 he had six attacks. In 1899 and 1900 the attacks increased in severity but decreased in frequency. During 1901 and '02 there were ten attacks and he was able to foretell each attack by a feeling of numbness in the right upper portion of the abdomen with nausea and constipation. He had never been jaundiced.

On entering the hospital Feb. 1, 1903, an examination revealed nothing abnormal about the different organs. There was tenderness over the gall bladder, but no tumor could be felt. The urine was normal. Blood examination showed, Serum slightly bile stained.

Red blood cells	4,900,000
White blood cells	9,900
Poly morpho-nuclears	55%
Small lymphocytes	18%
Large lymphocytes	6%
Eosinophiles	1%
Hemoglobin	100°
Index	92

A diagnosis of cholecystitis was made and operation advised. On Feb. 3, 1903, the gall bladder was drained in the usual way. It was found filled with thick tenacious bile very dark in color, no gall stones. Inoculations were made on agar, gelatine, and bouillon.

A pure culture of a short bacillus with rounded ends was obtained which the various

culture tests showed was in all probability the para-colon bacillus.

At the end of two weeks inoculations showed the bile to be steril. Drainage was therefore removed and the wound allowed to close. The patient made a good recovery and has remained free from his attacks since.

The author has operated on a number of similar cases in which no gall stones were present. Even when stones are present the symptoms complained of are usually due to the cholecystitis rather than to the gall stones, for stones which do not migrate may remain quiescently in the gall bladder for years without giving rise to any trouble whatever.

In stone cases we may find all degrees of inflammation from a mild type with only occasional attacks to an acute attack with perforation.

The most characteristic features of the chronic cases are tenderness at the point above mentioned, pain and gastric disturbances.

The stomach as a rule is a very tolerant organ and will stand much abuse without rebelling. In a person, therefore, who is troubled at irregular intervals with attacks of gastric disturbances often without apparent cause one should always suspect some extra-gastric trouble affecting this organ reflexly or mechanically, and one will most often find this in affections of the gall tracts.

In the milder cases of chronic cholecystitis without stones, we find simply a catarrhal inflammation of the mucosa. This membrane is thickened, more vascular and bleeds somewhat freely when incised.

The gall bladder is filled usually with a thick, somewhat tenacious, very dark, often cloudy or streaky bile. Sometimes the bile has apparently separated into two portions, a rather thin serous part and the thicker part just mentioned.

If the inflammation is more acute a seropurulent fluid may be found, while in the severest cases ulceration or sloughing of the mucosa or even of the entire thickness of the wall of the gall bladder may occur. The same conditions may also be found associated

with gall stones, but in these cases there is a greater tendency to pericystitis with adhesions to surrounding viscera, and to the formation of greatly thickened small, contracted gall bladders.

Concerning the treatment of cholecystitis we are confronted here with almost the same propositions that we meet with in appendicitis. Many of the acute cases, or acute exacerbations of chronic cases recover quickly, by simply emptying the stomach, keeping this organ at absolute rest, and starving the patient for a few days. On the other hand the severe cases with tendency to sloughing, perforation, or extension of infection through the walls of the gall bladder demand immediate operation.

The chronic cases which constitute by far the majority are usually easily and permanently relieved by cholecystostomy or drainage of the gall bladder with the removal, of course, of the stones should some be found present. Drainage should be maintained until the bile is found upon examination to be steril. This usually requires from one to two weeks when the fistula may be allowed to close.

Should the gall bladder be found so altered by inflammatory changes that a restitution to the normal condition does not appear likely then cholecystectomy should be performed.

It is not the intention to discuss the operative technic of these procedures, but merely to mention the treatment and operation of choice in these cases. Should an operation for any reason be contra-indicated or undesirable, then a line of treatment which may be briefly referred to as the Carlsbad treatment should be instituted.

#### Discussion on the paper of Dr. Harris.

**Dr. E. Mammen**, of Bloomington: Mr. Chairman:—I am very glad to hear this very clear exposition by Dr. Harris of a subject that is of very great and general interest. It has been my fortune to observe the evolution of the diagnosis of cholecystitis all the way from stomach trouble, neuralgia of the stomach, acute dyspepsia, acute indigestion, and what-not, until now it has come to be recognized that this class of diseases usually does not mean trouble with the stomach, but with the gall-bladder. I happened to have had a case recently, which was the youngest patient upon whom I have operated for this disease. She was



a girl, seventeen years of age, and had had pain in that region for some years, which had been diagnosed as stomach trouble by other physicians, and for which miscellaneous remedies had been given. But she was no better, and at my suggestion submitted to an operation. The operation which I would resort to in such cases would be the method by the Murphy button, or in cases in which there is no suppuration I have found that method to be most desirable in its ultimate outcome. In this case I found beautiful adhesions of the peritoneum, which surrounded the gall-bladder and the adjacent peritoneum; also adhesions of the mesentery and the duodenum, and as I came down upon the seat of the disease these two separated, peeled off easily and readily. The gall-bladder was then opened and the bile so well described by Dr. Harris, of a thick, dark color, was found. The gall-bladder was very much distended. A drainage operation was performed, and we had the satisfaction of seeing the patient completely recover, without the slightest soreness or tenderness remaining.

**Dr. Emil Ries**, of Chicago: I think the paper of Dr. Harris is a timely one, because it lays so much greater stress on inflammation of the gall-bladder than on the presence of gall-stones themselves. It is a paper which will be helpful to all practitioners who do gall-bladder surgery once in a while, and who make a diagnosis of gall-stones. Such a procedure as drainage of the gall-bladder is a successful and useful operation. Cholecystitis, especially the chronic form, leads to a great many changes in the gall-bladder and surrounding tissue, although Dr. Harris did not enumerate them in his short paper, and if you will allow me, I will mention one or two observations that I have made in cases of chronic cholecystitis.

There is, first of all, perforation of the gall-bladder and involvement of the neighboring organs, organs that are not normally attached to the gall-bladder, but which by adhesions may become so, as the stomach, duodenum, small intestine, etc.

A few days ago I demonstrated before the Chicago Medical Society three gall-bladders I had removed, in which there was a fistula. In one there was a fistula between the gall-bladder and the stomach. In one a fistula between the gall-bladder and duodenum. In a third there was a communication between the gall-bladder, and an intraperitoneal abscess shut off by adhesions, containing gall-stones. There were gall-stones in the abscess and gall-stones inside the gall-bladder. The perforation was the consequence of an ulcerative process in the gall-bladder—cholecystitis, although limited in degree.

How often cholecystitis leads to such perforations is not certain at this time. How many of the firm adhesions which we find around the gall-bladder; how many liver abscesses are connected with cholecystitis, we do not know. The conditions favoring such perforations are due to chronic inflammation of the gall-bladder, which produces false diverticula of the gall-bladder.

If you will permit me to make a diagrammatic drawing, I can show that in a minute. If

this is the bladder wall (indicating), and this the mucous membrane of the gall bladder, and these the subserous and serous coats, we find in chronic cholecystitis the glands going through the muscular coat and appearing under the serous coat sometimes. In one case I followed a perforation of the gall bladder to a point where a diverticulum came down into the wall of the gall-bladder. The wall of the gall bladder was closed again by hyaline scar tissue, and in the midst of this scar tissue there were chips of gall stones, and outside of that the walls of the abscess contained chips of gall stones. The direct connection between the diverticulum and perforation was easily shown under the microscope.

In the presence of cholecystitis, cholecystectomy is undoubtedly the best operation to perform. I do not wish to go into the technique of it, because Dr. Harris did not mention it, and will only say that cholecystectomy at the present time is so much the better operation, and gives such excellent results, that I am convinced it will become more and more generally used.

The operation of peeling out the mucous membrane, as recommended by Dr. Mayo, of Rochester, I believe is not practiced very much by himself at the present time, and these diverticula furnish good evidence against the usefulness of that operation. The mucous membrane cannot be peeled out alone, and when Dr. Mayo speaks of this he means that he peels out the mucous membrane and muscular coat. If he does that, there are still the ends of the diverticula left in the wall, which possibly may give rise to the formation of cysts. That is one of the great objections to the operation of peeling out the mucous membrane, which may appear easier than the cholecystectomy.

**Dr. A. K. VanHorne**, of Jerseyville. I was very much interested in Dr. Harris' paper, and I had intended to be at the afternoon meeting yesterday, but I had a patient who was apparently troubled with cholecystitis on Sunday, and Sunday night, and he was not well enough for me to leave him until yesterday.

We are not all of us competent to perform this operation (cholecystectomy), and yet we have patients who are in great pain and distress from this disease. Is there any remedy that we can give these patients which will relieve them? I think there is. The patient to whom I refer has had three attacks in the last four or five months. I gave him a tablespoonful of olive oil every two hours, which greatly relieved him. Of course, if it is absolutely necessary for him to undergo an operation, I believe it should be done, but so long as I can give relief by using olive oil, which is a simple medicine, or food, if I may call it so, and pleasant to take, I do not think I would urge operation.

I simply desire to mention the olive oil treatment in connection with this paper.

**Dr. Harris** (closing the discussion): Dr. Mainmen said that his operation of choice in these cases was the use of the Murphy button. If I am to understand by that statement that he performs cholecystenterostomy, then I surely disagree with him, because cholecystenteros-

tomy should never be performed for a simple cholecystitis. He would simply open a route for infection from the intestines, and constantly reinfect the gall bladder and gall ducts. Cholecystenterostomy has but one place in surgery, and that is where there is impassable and irremovable obstruction of the common duct. It has no other place in surgery.

Dr. Ries mentioned complications, saying that they were numerous. That is true. The gall bladder is probably the source of more conditions in the upper abdomen requiring surgical intervention than any other organ.

Let me say a word or two in regard to the medical treatment in these cases, when operation is not deemed advisable at the time. The best treatment is to empty the stomach and let it alone, and the pain will soon subside.

The olive oil treatment is very old, and I only mention it to call attention to a very amusing incident that occurred in connection with its use. I had a patient who had taken the olive oil treatment for a long time, and she was constantly passing, as she thought, a large number of gall stones daily, with the discharges from the bowels. She collected these apparent gall-stones and brought them to the office in a large bottle, illustrating the wonderful virtue of olive oil treatment. But when we examined the supposed gall-stones carefully, we found that they were all masses of soap. (Laughter.)

## A CASE OF INTERNAL HERNIA INTO THE RETRO-COLIC FOSSA.\*

BY ALBERT EDWARD HALSTEAD, M. D.,  
OF CHICAGO.

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The retro-colic or retro-caecal fossae are situated behind the colon and caecum, and are dependent for their existence upon the secondary coalescence, sometimes absent of the colon, caecum and mesentery to the posterior abdominal wall. They are destroyed by removal of these organs, being visible only when these parts are *in situ*.

These fossae, usually two in number, the external and internal retro-colic, are not constant. Berry found in twenty cases that the internal alone was present in 15 per cent.; both in 10 per cent. and the external alone in 5 per cent.

When both fossae are present, their formation depends upon three folds of peritoneum, these from right to left are:

- (1) The external parieto-colic fold, or the outer layer of the ascending meso-colon.
- (2) Internal parieto-colic fold, or the inner leaf of the ascending meso-colon.
- (3) Mesenterico-parietal fold, an abdominal attachment of the enteric mesentery internal to the meso-colon.

The external retro-colic fossa, relatively small and of slight pathologic importance is found between the outer and inner layers of the ascending meso-colon, and depends for its existence upon the failure of fusion of the two leaves of the colonic mesentery. If union is complete, the fossa does not exist. The boundaries of this fossa are: In front; the posterior wall of the ascending colon, and at times the caecum; the posterior longitudinal muscular band is found between the layers of the meso-colon, which bound the fossa laterally. Behind; the posterior abdominal wall.

Laterally, we have the internal and external parieto-colic folds.

The more constant and pathologically more important internal fossa is bounded in front, by the ascending colon and caecum; behind, the posterior abdominal wall; internal parieto-colic fold. Its existence depends upon the presence of the mesenterico-parietal fold, which has been termed by Tuffier, the inferior ligament of the caecum. This fold as described by Jennesco, is of triangular shape, its superior or mesenteric border inserted into the posterior layer of the mesentery, the ileo-caecal angle and the border of the caecum for a variable distance. Its parietal border is adherent to the iliac fossa at the level of the sacro-iliac synchondrosis. Its free border is directed forwards sometimes to the left and is concave. Its summit is lost above and behind upon the mesentery. In case of non-attachment of this fold to the posterior abdominal wall, the internal fossa cannot exist. The typical internal retro-colic fossa is very distinct and depends as stated upon the presence of the mesenterico-parietal fold, and the colonic mesentery, being situated between these folds. It lies behind the angle of junction of the ileum and colon. It is of variable size.

\*Read at the 54th Annual Meeting, May 17, 1904.



sometimes being sufficient to admit three fingers.

It is generally conceded by most investigators that hernia into the retro-colic fossa is rare. Treitz offers as an explanation of the rarity of this condition, (1) that the orifice of the sac looks downward and therefore the intrusion of the gut is generally prohibited by reason of gravity. (2) That the orifice of the sac is non-vascular and not resistant.

Jennesco, differs with Treitz, maintaining that herniae are not rare. Moynihan agrees with Treitz concerning the rarity of hernia into the retro-colic fossa, having found only two cases that he considered unquestionably that of retro-colic herniae. These two cases were described by Rieux. Jennesco records eleven cases including the two cases of Rieux, that Moynihan concedes as being examples of true retro-colic hernia.

The case of Wagner, which Jennesco depicts as a typical case, Moynihan regards as a hernia of the fossa iliaco-subfacialis.

A third case, that of Funkenstein reported in the *Deutsche Zeitschrift für Chirurgie*, Bd. 64, 1892, may be considered as a hernia into the internal retro-colic fossa. Funkenstein, in reviewing the reported cases, concludes as Moynihan, that these hernia are extremely rare, but believes that in addition to the two cases of Rieux, the case of Engel (Wien. Med. Wochensh., 1857) and that of Aschoff, (Berl. Klinik, 1896) should be classed as retro-colic hernia. Accepting his statement we have only five cases on record. To this list we believe may be added the following case:

On September 17, 1902, I was called in consultation with Dr. Warner of this city to see K. Kowalski, who had been ill for five days. He gave the following history: The patient, a large fleshy man of 40, by occupation, a night-watchman, had always enjoyed perfect health until about five years ago. Since that time he has had three or four attacks similar to the present one, but not so severe. These would begin suddenly with severe abdominal pain, nausea and at times vomiting. Usually the pain would cease suddenly, when after expelling a large quantity of flatus he would experience no further

trouble. One of these attacks one and a half years ago was more severe than the others, lasting two days, and associated with great abdominal distention and tenderness. After this attack he was greatly prostrated and was compelled to quit work for a week.

The present attack began four days ago, the initial symptom being similar to those of the preceding attacks. On returning from work in the morning, he, as was his habit, went to the closet to evacuate his bowels. While straining at stool he felt something slip in the lower right part of the abdomen. This was immediately followed by the feeling of nausea. He was able to be about most of the day, but could not sleep from the pain and nausea from which he suffered. Toward evening he secured by enema, a fairly large bowel movement, but did not pass any gas. From this time unceasing effort was made to move the bowels both by cathartics and enemata without any result. The vomiting continued with increasing abdominal pain and excessive distention. During the last twenty-four hours he has had a temperature ranging from 101 to 103 degrees with profuse perspiration and rapid (120-130) weak pulse. On examination of the abdomen, it was found greatly distended, the walls extremely rigid, with tenderness most marked on the right side. The contour of the abdomen was semi-spherical, the distention being greatest around the umbilicus and less marked in the flanks. No free fluid in the cavity could be demonstrated. On palpation there was excessive tenderness over the ileo-caecal region.

From the history and the examination, it would appear that the patient was suffering from mechanical ileus. The most probable cause being a strangulation from a band resulting from a previous appendicular inflammation.

The patient was immediately sent to the Baptist hospital. On reaching there his temperature was recorded at 103°; his pulse, 156, and his leucocytic count at 26,000.

After the usual preparation the abdomen was opened. Believing that we had to do with an obstruction resulting from a previous appendicitis, the incision was made over the

border of the right rectus muscle, the center corresponding to the anterior superior iliac spine. As the abdominal wall was very thick and the distention excessive, an unusually long incision was employed. On opening the abdomen, the small intestine, over-distended, immediately protruded. This was replaced and controlled by sponges. On inspection of the ileo-appendicular region, the caecum and ascending colon were found collapsed and compressed against the anterior abdominal wall. For further inspection the caecum and colon were lifted out of the abdominal cavity. The terminal portion of the ileum could be seen to pass down and back behind the upturned and collapsed colon. During the latter part of this manipulation, the collapsed terminal portion of the ileum suddenly became distended, and after apparently rotating in itself, appeared in the abdominal incision. The caecum and a part of the ascending colon which were outside of the abdomen, became enormously distended with gas, which, at the moment when the loop of ileum slipped from underneath, gurgled freely through the ileo-caecal valve. In order to determine if possible the cause of the obstruction, the appendix and ileo-caecal region was carefully explored. The appendix was normal. On examination of the retro-colic space a pocket admitting freely three fingers and fully three and one-half inches in length, was found behind the caecum, colon and ileo-caecal junction. It was evidently in this fossa which corresponded to the internal retro-colic fossa that the strangulation of the small intestine had occurred. No serious damage to the strangulated loop was evident. During the exploration of the retro-caecal region considerable tension was made upon the caecum and colon which were drawn up into the wound. The dislocation of this portion of the intestine together with the enormous tension exerted upon this previously collapsed gut from the gas passing from the over-distended small gut, caused the caecum to rupture. The tear began on mucous surface and extended along the longitudinal band for a distance of about two and one-half inches. When this occurred, enormous quantities of gas

and liquid faeces escaped. The patient's condition became very bad, so that to shorten the already prolonged operation, an artificial anus was established at the point of rupture. The patient quickly recovered. The artificial anus was closed in about two months. Since that time, he has enjoyed good health.

## IDIOPATHIC DILATATION OF THE ESOPHAGUS.\*

BY JAMES B. HERRICK, M. D., CHICAGO.

By idiopathic dilatation of the esophagus is meant dilatation with no ascertainable organic cause. The esophagus dilates usually throughout a large portion of its extent, sometimes two-thirds, or three-quarters being dilated and in a spindle-shaped or cylindrical manner.

With regard to the pathological anatomy of the condition, I wish to say little or nothing, leaving that phase of the subject to Dr. Sippy, who, by means of a specimen, which he has been fortunate enough to obtain, will be able to tell us much more than I can by any didactic description.

What causes this dilatation of the esophagus is more or less of an hypothesis. Lossen, who has written recently on this subject, has grouped the pathogenesis of the condition under five heads.

1. There may be primary spasm of the cardia, with secondary dilatation of the esophagus above the spasm, hypertrophy of musculature, etc., much as we find in the myocardium in case of obstruction at the cardiac valves, or in the stomach, where we have dilatation of that organ following obstruction at the pylorus. This view of primary spasm of the cardia is held by Mikulicz and others.

2. Primarily, we may have a predisposition to muscular weakness, a condition of atony allowing stagnation of food to occur, next dilatation, and then through irritation, spasm of the cardia. Rosenheim makes this contention, and says he cannot see clearly

\*Demonstration of a case before the Chicago Medical Society, May 3, 1904.



why, if primary spasm of the cardia is the cause of the dilatation, we do not more frequently get dilatation with organic strictures.

3. A third view is advanced by Kraus. Through defective vagus innervation, there has been found in experiments on lower animals, contraction of the cardia, with relaxation of the circular fibers of the esophagus. Kraus believes the same thing may occur in man and supports his view by a specimen from a human being, which he found in the Vienna Museum, in which degenerative changes in the vagus were distinctly marked.

4. A fourth view is that of primary esophagitis, with secondary reflex spasm of the cardia, and later dilatation.

5. Congenitally, there is at times a pouch just above the cardia, spoken of sometimes as the Vormagen, or cardiac antrum, which, by the accumulation of food or constant pressure of food, dilates, and is thus the basis for the dilatation.

Perhaps no one of these theories explains the condition. It is possible that several of these causes might obtain in a given case to produce the condition; but most of the cases certainly seem to have definite spasm of the cardia. Clinically, spasm of the cardia is, so far as we can judge from the history, one of the earliest manifestations of dilatation of the esophagus.

Symptomatically, we have a condition which is well illustrated by the history of this sixteen year old boy, whom I present. In September, 1903, he began to have difficulty in swallowing solid food which he washed down with the aid of water. He often went through certain movements of the body and arms, took deep breaths, etc., to force the food down. Later, as a second symptom, there was regurgitation of the food that had stagnated above the cardia. When the esophageal pouch was full this would occur. He frequently left the table in order to "vomit" as he thought. Later came the symptom of emaciation, with loss of strength. This is the typical history in almost all of these cases: First, food sticking in the esophagus; later, the patient is unable to swallow even with the aid of liquids, or any movement, and then come the regurgitation and the constitutional

symptoms. Occasionally a cough has been described, but that has not been present in the case of this boy. When a patient comes to us with such a history, we naturally from the symptoms suspect trouble in the esophagus. I need not say that a careful examination of other parts of the body should first be made, to exclude aneurysm or growths that might press upon the esophagus, etc.

Now in the case of this boy as soon as we found the patient normal in every other respect, we began to investigate the esophagus, and the first thing we found, in introducing the stomach tube, was an obstruction when we reached the cardia. Also, after a meal, at about twelve or thirteen inches from the incisor teeth we are able to get food, and this food, if examined, as gotten by the stomach tube, or as the patient regurgitates it, shows characteristics that are noteworthy. It is apt to be alkaline or neutral. It shows maceration, but not true digestion, and we do not find gastric ferments in it. We do not find free hydrochloric acid. There has been found lactic acid, and not infrequently sugar, due to the action of the saliva on the starch of the food. In this case we have examined many a time the food that has been regurgitated, and that which we have obtained by the passage of the stomach tube, and have never found any free hydrochloric acid. Next, we passed the tube down to the cardia, and it met with resistance. In some cases persistent pressure even with a flexible tube will cause the spasm of the cardia to relax, and the tube passes into the stomach. In the case of this boy the ordinary stomach tube failed to pass. By using a stiffer tube, or, rather, bougie, I was able by gentle pressure to pass the tube through into the stomach. As it was being withdrawn there was distinctly felt the grip of the cardia on it.

Many mechanical experiments have been tried on these patients, the objects of which is to show: (1) That the esophagus is larger than it should be; (2) that we have not only this pouch, but the pouch of the stomach below; (3) that we have separating them a constricting band of muscular fiber. These things are proven by many ingenious devices.

In this boy's case we have put water into the pouch, and withdrawn it at a certain level say 12 inches. Then, we have passed the tube farther down, withdrawn water from that level, and so on down to the cardia. We can measure the amount the dilatation will hold, about 5 ounces. We have passed a stomach tube into the stomach, after dilating with the bougie, and have passed methylene blue solution into the stomach; have withdrawn the tube, rinsed it off with water, and then introduced some other colored fluid or clear water above the cardia. This latter does not pass down into the stomach because we can recover clear water by the stomach tube, and by passing the tube farther i. e. into the stomach we can recover the methylene blue solution.

There is one experiment described in the literature which is sometimes known by name as Rumpel's test. It is really the test to try to tell whether or not we are dealing with a dilatation or with a diverticulum. Rumpel passes one tube (let us call it a short tube) into what he believes may be a diverticulum. This tube has a little window or opening near its lower end. He introduces a second long tube down into the stomach. There is an opening at the bottom of the tube, and also a window higher up above the cardia as I indicate to you on the blackboard. He introduces a colored fluid into this tube, which we will call the shorter one, and the fluid collects in the diverticulum to the extent of half an ounce or ounce, let us say, but does not pass through the longer tube into the stomach. He puts in more, and when the diverticulum is full the fluid overflows and passes through the opening in the long tube into the stomach, and can be recovered from that point. If he is dealing with uniform dilatation of the esophagus, the fluid at once escapes from the short tube into the cavity of the esophagus and passes through the window in the long tube into the stomach, and can be recovered from that point.

The boy has had some crackers two hours ago and you see that he is regurgitating. We will make a test with the dimethylamidoazo benzol. (Testing.) You see there is no reaction for free HCl. Several other confirmatory

tests might be mentioned. Occasionally by percussion and auscultation, when the pouch is full, changes in the note can be detected. The use of the X-Ray should not be forgotten. I have a skiagraph of this case. By swallowing five or six ounces of oatmeal gruel, in which was suspended bismuth—oatmeal gruel or potato broth being used merely because bismuth will not settle to the bottom so rapidly as in water—there is shown very distinctly the shadow of the dilatation. The use of the esophagoscope should not be forgotten. This was passed a day or two ago by Dr. Sippy and myself. I am going to ask Dr. Sippy to speak of the use of the esophagoscope in these cases, as I believe he has some interesting points to give us in connection with this topic.

The prognosis in these cases has a considerable element of gravity. In some of them the spasm is never very tight, or only for the time-being tight. In some cases you may be able to pass the stomach tube with ease, yet, when the patient takes certain kinds of food, as in one case reported where sweet food was taken, there will be spasm. In one case I have seen the spasm excited only by cold food. Where the spasm is tight, starvation is threatening. It is a very serious affair when the esophagus is not only dilated, but when it is lengthened out, and may have curled in such a manner that the cardia is away off to one side, so that it is difficult to get a stomach tube to pass through. In these cases, then, the prognosis is serious, and one can understand that gastrostomy has occasionally to be performed.

In this boy's case the treatment has been largely dilatation of the cardia by bougies, with the subsequent passage of the stomach tube and feeding through this tube. But we have found that by giving him solid food rather than liquid, which in his case seems to excite spasm of the cardia more readily than solid food, and by letting him take food immediately after the passage of the bougie, he is able to swallow at times. Yesterday he ate a hearty meal. Last night he ate supper. This morning he lost his breakfast. He has gained ten pounds in twenty days. We have now washed out the pouch, and it remains to



be seen how successful we shall be in getting into the stomach. It takes considerable patience at times to introduce the stomach tube in these cases. In order to save time I shall use a somewhat stiffer tube than usual. I find that I meet with obstruction in introducing the stomach tube, at the level of the cardia, but by a little patience have now succeeded in passing it into the stomach. Some stomach contents come out through the tube and you notice that the test for free HCl. is positive, very different from what it was with the contents of the dilatation. I will put some methylene blue solution into his stomach, withdraw the tube and then put clear water into the esophagus above the cardia. Now waiting for a few minutes I withdraw the fluid from the two situations separately. That from the esophagus, while stained a little with the blue because of haste and a faulty technique is much lighter in color than that from the stomach showing that the two fluids are in separate cavities. In making the demonstration in my college clinic and taking more time to it the proof was complete.

### CYSTIC TUMORS OF THE OVARY.\*

BY GEO. W. NEWTON, M. D., CHICAGO.

A case of a ninety pound multilocular ovarian cyst that had been incorrectly diagnosed seven years ago by a Chicago specialist and therefore wrongly treated up to the time she had an operation in February last suggested to me the wisdom of reviewing the subject of ovarian cysts.

Cysts develop from the cortical part of the ovary, or the oöphoron and from the medullary part or the paroöphoron and from the parovarium.

They may be classified as: Follicular, Glandular, Dermoid and Proliferating papillary.

Follicular cysts develop from the Graafian follicles and corpora lutea. Their growth is due to the thickening and hardening of the tunica albuginea that has taken place as a result of chronic congestion and inflammation. The follicles being unable to rupture

a cyst is thus started. This form of cyst may be multilocular or unilocular and rarely grows larger than a small orange. The wall of a cyst of the corpora lutea is usually thick and light yellow in color. The follicular cyst does not stop menstruation, ovulation or pregnancy. One or both ovaries may be affected. They occur as a rule during the period of ovarian activity.

Glandular cysts are multilocular ovarian cysts adenomas. They develop from the glandular elements of the ovary. In a small percentage of cases both ovaries may be affected but they are usually unilateral. The ovary is destroyed. When these cysts first begin to develop they are multilocular but later the walls separating the cysts may be absorbed and a unilocular cyst results. There is practically no limit to their size. The wall of the sack is firm, being composed of connective tissue, elastic and unstriped muscular fibres. The contents of the sack varies in consistency from a thin fluid to a jelly like substance, the color of the fluid may be yellow, coffee colored, green or black. Pfannenstiel claims papillomatous growths are sometimes found within these glandular cysts. These tumors are as a rule intra-peritoneal, their pedicle is composed of broad ligament, fallopian tube and ovarian ligament.

Dermoid cysts of the ovary are characterized by their sack and contents. The wall of the sack is thick, the external surface is brown or gray in color, the internal is lined with a tissue which in appearance and structure resembles skin. Their contents are so well known it seems hardly necessary to mention them. They are usually unilocular, of comparatively small size, often adherent and they not infrequently inflame and suppurate. Dermoids occur at any age and are of slow growth. They may undergo sarcomatous degeneration.

The proliferating papillary cysts start from the medullary portion or hilum of the ovary. They are supposed to originate from the remains of the Wolffian body. They frequently grow between the layers of the broad ligament and thus become extra-peritoneal. Upon the inner surface of the cyst wall warty growths are found which may be small

\*Read at the 54th Annual Meeting, May 17, 1904.

in size or they may form cauliflower like masses. The wall of this form of cyst is apt to rupture, if this occurs these vegetations invade the peritoneum and ascites occurs. The fluid in the sack is thin and watery in character differing very much from the fluid found in the glandular variety. They are as a rule unilocular and frequently bilateral. Rupture of the sack should be prevented if possible when removing it for fear of infecting the peritoneum. Cases have been reported where there was a recurrence of the papillomatous growths in the abdominal incision.

Cysts of the parovarium are not connected with the ovary. They may be simple or papillomatous. Never reach a large size, are mostly unilocular and grow between the layers of the broad ligament. Fluid contents watery.

*Etiology.* Many theories as to the cause of ovarian tumors have been advanced, among them are: The retention of embryonic products, traumatism, sexual excess, inflammation, in regard to this I will quote Dr. Mary Dixon Jones, *Journal of Obstetrics and Diseases of Women and Children*, October, 1900. She says: 1. Cyst formations are the outcome of disease. 2. No ovarian cyst, small or large, exists without a previous oöphoritis. 3. Other things being equal the more intense the inflammation the more rapid is the growth of the cyst. 4. There can be no cyst without a reduction of the tissues to protoplasm. 5. This reduction to protoplasm is what we call inflammation. 6. Cysts are always the result of inflammation and are always accompanied by more or less pain, distress and disturbance of the general health.

The theory most commonly advanced to explain the origin of dermoids is an inclusion of the epiblast but Johnston suggests that they are due to a faulty development of the ovum which contains the germ of all tissues, hence dermoids arise from the mesoblast, hypoblast as well as from the epiblast.

The pedicle. When a cyst starts from the hilum of the ovary it grows between the layers of the broad ligament and is sessile, when it starts from the parenchyma of the ovary it is intra-peritoneal and pedunculat-

ed. The pedicle includes the broad ligament, Fallopian tube and ovarian ligament. It may be long or short. Sometimes the pedicle will rupture or break off, in such cases the tumors get their nourishment from the adhesions which have taken place between the wall of the tumor and the omentum and intestines, this was the condition that existed in a large tumor I removed in February. Such adhesions complicate and increase the dangers of removing these cysts very materially.

Ovarian cysts are subject to inflammation and suppuration, twisting of their pedicle and rupture of the sack, when any of the above changes occur symptoms arise which indicate the complication that has occurred. The smaller cysts particularly dermoids are prone to inflammation and suppuration. The infection may come from the Fallopian tube vermiform appendix, intestine and the bladder. The old practice of tapping cysts was frequently followed by suppuration. As a result of inflammation the cysts will be slightly or firmly adherent and the patient will complain of increased tenderness and pain. The symptoms of suppuration are fever, dry tongue, weak and rapid pulse, loss of appetite, loss of flesh. She does not necessarily suffer pain. Pus may make its escape through an adherent bladder, bowel or through the vagina or it may rupture into the peritoneal cavity, in such a case death follows rapidly a general septic peritonitis.

The changes in a cyst whose pedicle is twisted and the symptoms produced depend upon the degree of torsion and the rapidity with which the torsion has taken place. When the twisting takes place gradually no special symptoms arise but when the torsion is sudden the patient complains of pain, sensitiveness on pressure and nausea. The pulse will be rapid and there may be temperature. Hemorrhage into the tumor may take place and thrombosis and necrosis may occur.

The cause of rotation of the tumor is not known although pregnancy is said to favor it. Rupture of the sack is another accident that may happen to an ovarian cyst, it may be due to slight external pressure, as from an examination or to a sudden jolt or jar or



from pressure inside the tumor. Certainly rupture is more apt to take place if the integrity of the wall of the tumor has been destroyed or weakened by fatty degeneration or inflammation or by papillomatous growths. The symptoms arising from rupture depends upon the character of the fluid contained in the cyst—it may be absorbed by the peritoneum and excreted by the kidneys with no bad symptoms or there may be diarrhoea and vomiting. The rent in the sack being gradually closed up by adhesions the sack gradually refills. If the fluid is septic, general peritonitis develops. If the tumor is a papilloma, the general peritoneum may be infected with vegetations and ascites develops.

Symptoms of ovarian cysts. The size, location, presence or absence of adhesions and the accidents that the tumors are subject to determine the symptoms of ovarian cysts. Small, intra-peritoneal movable tumors cause few or no symptoms. The patients attention may first be attracted to the growth by the fact that she is growing larger. Even after her attention has been attracted to the tumor by her increasing size, it may not produce much discomfort. As the cyst grows larger pressure symptoms increase and the large multilocular cysts cause difficulty in breathing, in walking and interfere with the heart's action. Intraligamentous growths by pressing on the bladder, rectum and ureters may cause much suffering before they have reached a very large size. Dermoids and glandular cysts may cause ascites, the proliferating papillary cyst frequently does so. All forms of ovarian cysts are subject to malignant degeneration, the papillomatous the most frequently and the glandular the least. Such degeneration judging from the cases reported are rare. The menstrual function is little affected by these growths, excepting in the case of bilateral papillary cystadenomas when it is increased. In other cases the tendency is for the amount of the flow to grow gradually less. Dr. H. D. Beyer cites in the *Amer. Jour. of Obstet. and Dis. of Women and Children*, February, 1900, a case of multilocular pseudomucinous cyst adenoma that was associated with pronounced symptoms of glycosuria and he re-

ports other cases that would suggest the tumors to be because of the sugar in the urine for the sugar disappeared after the cysts were removed. Albuminuria may or may not be present.

*Diagnosis.* When the cyst is in the pelvis the diagnosis is made by bimanual examination either with or without an anesthetic. To avoid making an error in diagnosis an anesthetic should be used. With the patient anesthetized the abdominal wall will be thoroughly relaxed, then the entire pelvic contents can be easily palpated. If the growths are intra-peritoneal, they are quite movable, they may lie either front, back or to the side of the uterus. Pulling the uterus down does not move the cyst and the cyst can be moved without moving the uterus. The shape of cysts is round, their surface may be uneven and lobulated. Their presence is not preceded by a history of acute inflammation, the growth is constant but slow. We distinguished a cyst from a solid tumor of the ovary by the hardness of the latter—avoid mistaking a distended bladder for a cyst by invariably drawing the urine before beginning the examination. When the ovarian tumor has arisen from the pelvis into the abdominal cavity the field of differential diagnosis will be greatly increased. Pregnancy has caused many mistakes in diagnosis but if one remembers the purple color of the vagina, the shortened and soft cervix and the foetal heart sounds it would seem as though many such mistakes were due to carelessness. Without attempting to mention all the abdominal tumors ovarian cysts have to be differentiated from, I shall give the salient points of their diagnosis.

1. There is a gradual asymmetrical enlargement of the abdomen.
2. With the patient in the supine position percussion gives localized dullness with tympany in the flanks.
3. Change of position affects location of dullness only slightly and does not alter shape of abdomen.
4. Menstruation as a rule unchanged.
5. Uterus not enlarged.
6. General health does not give evidence of serious disease of liver, kidneys or heart.

7. Fluctuation distinct, level does not change with change of position.

Many pathological conditions have been mistaken for ovarian cysts but the use of an anesthetic and repeated examinations will generally enable one to avoid making unpleasant mistakes. The diagnosis is rendered more difficult if pregnancy coexist with the tumor or if the abdominal walls be very thick. These pictures will show you the case I spoke of in the beginning of my paper. It illustrates well the size a multilocular cyst may attain. Seven years ago this patient was told she had an intramural fibroid. She took intra-uterine treatments of electricity twice a week for twenty months. Two years ago when her girth was forty-one inches she became pregnant. When I operated her girth was fifty-six inches and the tumor weighed ninety pounds. She recovered nicely from the operation.

*Treatment.* The only treatment applicable to glandular, dermoids and proliferating papillary cysts is removal. Just what is the best treatment of an ovary that has follicular cysts or has undergone the so called cystic degeneration is still an unsettled question. No doubt the ills and discomforts of many thousands of women have been increased rather than diminished by removing ovaries because they contained a few small cysts. It is also true that women whose ovaries have been resected have had to undergo a second operation, because after partial removal of their ovaries cystomata or cirrhosis of the ovary developed or they suffered severely from menstrual disturbances. However, there is a growing tendency I believe to leave healthy ovarian tissue whenever possible although such practice will be followed in a certain percentage of cases with the necessity of a second operation. Coe in the New York Med. Jour., October, 1903, states that in over five per cent of his conservative operations he had to reopen the abdomen to effect a cure. Granting that this represents the experience of most operators preserving the menstrual function of ninety-five per cent warrants the practice of taking some chance of a second operation and no doubt as the diagnostic ability and technic of opera-

tors improves this percentage will be lowered.

To quote Coe again, he says, "the chance of a recurrence of the original pathological condition vary according to the character of the adhesions and exudates found at the first operation, and the extent of the denuded surfaces left within the pelvis."

Patients can aid somewhat in preventing a return of their trouble by stopping practices which cause congestion and inflammation of the sexual organs.

### A CASE OF MASTOID OPERATION EMBRACING SOME UNUSUAL FEATURES.\*

BY H. W. CHAPMAN, M. D., WHITE HALL, ILL.

Mr. F. G., aged 19 years, White Hall, Ill., telephone line man. Father died of pulmonary tuberculosis, one brother has suppurative middle ear trouble, mother living and in good health. At the age of five years had scarlet fever complicated with suppurative otitis media right ear. There has been a continuous discharge of pus from this ear up to the time of his coming to me, May 12, 1902. Was referred to me by his attending physician with the remark that "unless something could be done, he was going to die." Three months previously pain and swelling occurred in right mastoid region, and both have continued uninterruptedly together with fever, loss of appetite and sleep.

Is pale, anemic and much reduced in flesh. Situated behind the right ear is a large fluctuating tumor, tender on pressure, extending upwards over parietal bone and backwards five centimeters. Pus pouring from meatus. An incision was at once made into this tumor and about 70 cc. of thick foul smelling pus was evacuated, a drainage tube inserted and large antiseptic dressing applied. Patient was given tonics and generous diet. The ear was kept clean and dressed antiseptically each day. He soon began to show improvement. On May 29th was taken to sanitarium and under chloroform an incision was made in the usual sit-

\*Read at the 54th Annual Meeting, May 17, 1904.



uation, extending from the tip of the mastoid, running close along behind the auricle to a point 1 or 2 cm. above the latter, dividing all tissues including the periosteum. Hemorrhage was quite free. A sinus was discovered in upper portion of mastoid the opening of which was enlarged with chisel and mallet, the carious bone scooped out with a bone curette. One of the unusual features was the high situation of the antrum, which was  $1\frac{1}{2}$  cm. back of and 2 cm. above the external meatus and  $3\frac{1}{2}$  cm. deep. A large cavity was cleared out in mastoid requiring a strip of gauze 70 odd cm. long and more than one cm. in width to fill. The wound was closed excepting sufficient for drainage, and a large antiseptic dressing applied.

Patient bore the anesthetic well, recovered from it promptly and left the sanitarium the next day, receiving the remainder of his treatment at the office. The cavity in bone was kept packed with gauze fourteen days, when a rubber drainage tube was substituted. The wound and middle ear were irrigated daily with antiseptic solutions and the dressings kept scrupulously clean.

Wound healed entire by primary intention excepting the portion kept open by drainage tube.

Patient improved daily and in one month from time of operation resumed his work of climbing telephone poles. In September following the drainage tube was removed and its opening promptly healed over. There was still some discharge from the meatus. Everything went well until July 1st, 1903, when there was some pain behind the ear and a little pouting of the skin covering the former site of the drainage tube. This was incised and allowed the escape of a little pus, the drainage tube was again inserted and worn continuously until October 24th, when it was finally removed. At this time it was discovered that the sinus was lined with epithelium from the integument down to its bottom.

The sinus is 7 mm. in diameter and 3.5 cm. in depth, running inwards, slightly upwards and forward. Its external opening is situated 1.5 cm. back of, and 2 cm. above

the external auditory meatus. Water thrown with syringe into auditory canal issues from this opening in a full stream spurting out 7-8 cm. from head.

Water thrown into the sinus in same manner issues from the external auditory meatus in a similar stream.

This permanent sinus and the high situation of the antrum, viz. 2 cm. above the auditory canal are the unusual features of the case.

The ear now remains dry and has given no trouble for a long time.

Patient has not missed a day's work since latter part of June, 1902. Is well in every way. P. A. A. D. 11. 5/160, A. S. 35/160 inches.

### New Incorporations.

The Secretary of State at Springfield yesterday licensed the following corporations:

The Shields Croup Liniment company, Minier; capital, \$15,000; manufacturing medicines; incorporators, S. M. McLaughlin, C. H. Buehrig, R. C. Cripfield.

Union Hospital association, Paris, Ill.; conduct hospital; incorporators, Frank O'Hair, R. G. Sutherland, H. L. Jones.

The Ekolene Chemical company, Chicago; capital, \$30,000; to manufacture medicines; incorporators, Sanford F. Giles, Albert D. Hughes, C. L. Redfield.

Alumnae Association of Chicago Hospital Training School for Nurses, Chicago; benevolent; incorporators, Edith Briggs McWhorter, Martha I. Giltner, Caroline C. Small.

Monahan Antiseptic company, Chicago; capital, \$10,000; manufacturing soaps, drugs, and antiseptics; incorporators, John J. Rooney, Joseph Grossman, Rowland T. Rofers.

Giles Remedy company, Chicago; capital, \$30,000; manufacturing proprietary medicines; incorporators, D. S. Giles, Charles W. Blatchford, R. W. Closter.

Dr. Boyd Medical Office, Chicago; capital, \$2,500; conduct a sanitarium; incorporators, Dr. J. Boyd, Josiah Gratty, William N. Jarvis.

Lincoln—Dr. J. H. Beidler died Friday at the home of his daughter, Mrs. Frank Newton. Bronchitis and heart failure were the cause of his death. The deceased was 75 years old and had been in failing health for some time. For many years he was one of the leading physicians of Lincoln.

# The Illinois Medical Journal.

The Official Organ of the State Medical Society.

JUNE, 1904.

NEXT ANNUAL SESSION, ROCK ISLAND, MAY 16, 17, 18, 1905.

## OFFICERS:

PRESIDENT—W. E. QUINE, Chicago.

FIRST VICE PRESIDENT—H. C. MITCHELL, Carbondale.

SECOND VICE PRESIDENT, J. F. PERCY, Galesburg.

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Practice of Medicine, Medical  
Specialties, Materia Medica,  
Therapeutics, Etiology, Path-  
ology, Hygiene, State Medi-  
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### SECTION TWO.

Surgery, Surgical Specialties,  
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### Committee on Prevention of Tuberculosis.

J. W. Pettit, Ottawa.  
C. L. Mix, Chicago.  
J. F. Percy, Galesburg.

### Committee on Public Policy and Legislation.

Frank Billings, Chicago.  
Carl E. Black, Jacksonville.  
J. W. Pettit, Ottawa.  
The Pres. and Sec'y, Ex-Officio.

### Committee on Scientific Work.

M. S. Marcy, Peoria.  
Geo. L. Eyster, Rock Island.  
The Pres. and Sec'y, Ex-Officio.

The figures before the names  
of the Councilors refer to the  
Councilor Districts.

### The Council.

- (1) J. H. Stealy, Freeport.
- (2) W. O. Ensign, Rutland.
- (3) M. L. Harris, Chicago.
- (4) O. B. Will, Peoria.
- (5) J. Whitefield Smith, Bloom-  
ington.
- (6) C. E. Black, Jacksonville.
- (7) E. E. Fyke, Centralia.
- (8) W. K. Newcomb, Cham-  
paign.
- (9) J. T. McAnally, Carbondale.

## THE BLOOMINGTON MEETING.

The 54th annual meeting at Bloomington proved to be all that had been anticipated. There was a large attendance and great interest shown. This was particularly true on the part of the citizens of Bloomington as was shown by the crowd that listened to the addresses the first evening and by the inspiring and enthusiastic audience which listened to and applauded the Symposium on Tuberculosis.

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The President's address was heard with unbounded satisfaction. No words were spared in denouncing those members of the profession who had proven themselves so forgetful of the power which created them. At the same time the Society was admonished of the lack of unity which permitted the

outrageous treatment which had been accorded it during the past two years. The address should be read and pondered by every member of the Society.

\* \* \* \* \*

The symposium on tuberculosis was undoubtedly the event of the meeting. Chairman Pettit had so thoroughly planned for this event that nothing was lacking to make the occasion a great success. If nothing else had been done at the meeting this symposium was enough to make it a notable event. The matter too is not to be permitted to rest with the reading of the papers. The untiring Pettit has interested the entire lay press of the State in the warfare against disease and besides has already arranged to start a camp in the neighborhood of his home city to give a practical demonstration of the lessons taught in the papers. We hope that



all his plans will materialize and that another year will see Illinois a leader among the states which are organizing to exterminate the bacillus of consumption.

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But the symposium on Tuberculosis was not the only good feature of the scientific program for both sections were replete with papers carefully prepared and fully discussed. Large and appreciative audiences heard them.

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The House of Delegates was for the first time in full control of the business of the Society working under the new constitution. A great deal of business was accomplished but it was at the expense of keeping the delegates away from the Sections for a greater part of the time. We hope that it will soon be found practicable to hold the first session of the House the day before the annual meeting so that the bulk of the business may be completed before the members of the Society have assembled. The delegates would then be free to mingle with the membership during the meeting so as to learn by personal contact the needs of the whole profession in the State. Sessions of an hour each day during the meeting would then probably suffice to complete the work. Undoubtedly some changes will be necessary in the present constitution as the Society grows and experience teaches but for the present it is a good working guide.

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Much more might profitably be said concerning the meeting but, owing to sickness in his family, the editor was able to attend the meeting only for a short time. The entertainment offered by the profession and citizens must not be forgotten because it was cordial and bountiful.

#### POLITICIANS AND STATE INSTITUTIONS.

In our last issue we discussed a certain political pamphlet which had been sent to the members of the medical profession and left the subject open for further comment. We stated that the present executive had rendered himself unpopular with a majority of all the learned professions and recent events have proven the statement to be true. It was shown early in the contest that his re-nomination was impossible and the only question to be settled was which one of his opponents should be given the honor. There are certain lessons to be drawn from the downfall of Mr. Yates which should be stated at this time in order to avert, if possible, a similar blunder by the next Governor. Three times now have the people signified their disapproval of the prostitution of the State Institutions to political purposes and we firmly believe that present conditions can not and will not longer survive. The people are fully aroused to the enormity of the crime and the medical profession can do much, by agitation among the people to take the State Institutions out of politics, now and forever. Politicians know only the law first enunciated by Jackson, "to the victor belong the spoils." When this is applied to medical affairs it usually results in the appointment of those medical men who can bring the most delegates into a convention to perpetuate the rule of the boss. Ability and efficiency, humanity and progress are lost to view and the sufferers are the helpless sick who are unable to speak for themselves.

One of the chief reasons for the unpopularity of Mr. Yates was his utter disregard of the promises he had made concerning the conduct of the State Charitable Institutions. Many voters who had doubts as to his ability to fill creditably the Gubernatorial chair, supported him because of the good promises concerning the State Institutions made dur-

ing his campaign for election. His first acts shattered the hopes that had been raised. The appointment of Mr. Tanner as Secretary of the State Board of Public Charities was a notice that the same political methods which had been in vogue for eight years were to be continued for another quadrennium. This act with others as reprehensible drove from that Board two of the most valuable members it had ever possessed. When they protested, in their letters of resignation, against this policy one of them Dr. Hirsch was attacked by the chief executive in a manner which did him little credit and the other was only saved by her sex and character from a similar attack. The justice of the statements made by Miss Lathrop in her letter of resignation has been recently proven in a remarkable way. The editor of this Journal admitted to its editorial columns certain non-partisan and praiseworthy articles on the needs of the State Institutions of Illinois. In a letter printed in the April Journal criticising these articles, Mr. Tanner shows that even three years incumbency of his office has failed to educate him up to the point of appreciating what should be the proper plan for conducting a State Charitable Institution. A few of the letters we have received from our members in answer to Mr. Tanner were printed in the May Journal. They show little sympathy for his contentions. Those not printed are more forcible in their denunciation of his language.

The responsibility for all the mismanagement and want of improvement in our State Charitable Institutions must finally lie at the door of the Governor and probably this more than anything else has resulted in the unpopularity of Mr. Yates with the medical

profession. They know too well the justness of the criticisms.

Just as we go to press it is announced that Governor Yates has removed from office Dr. C. S. Blackman physician, Asylum for Insane Criminals at Chester and Dr. A. M. Lee, physician, Southern Illinois Penitentiary, Chester. The reason given for these removals is not that these gentlemen had failed to perform the duties of the positions held by them but that they had not actively labored for the renomination of the person who appointed them to the offices they held. Whether these gentlemen had been efficient officers or not concerns us not now. It is the principle at stake which we must condemn in unmeasured terms.

In behalf of the organized profession of the State, we demand that such abuse of the appointing power must cease with the present administration. It is too much to hope that anything can be done until the present executive has been deposed. He has shown himself incapable of learning and the condemnation of his actions apparent by the result of the convention seems only to render him more active in his maladministration.

When all the political parties have published their platforms and all the candidates have stated their attitude in regard to the State Charitable Institutions we expect to take up this subject again.

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#### TUBERCULOSIS EDITION.

It is at present the plan to make the July issue of the Journal a special tuberculosis edition, containing all the papers read on that subject at the annual meeting and the excellent tables and diagrams exhibited by the State Board of Health. This will be sent to every medical man in the State.



## Correspondence.

CHICAGO, MILWAUKEE & ST. PAUL RAILWAY CO.  
GENERAL AUDITING DEPARTMENT.  
FREIGHT AUDITOR'S OFFICE.

Chicago, Ill., May 27, 1904.

Dr. Geo. Kreider, Springfield, Ill.

Dear Doctor: Having been informed that a reprint of the papers read before the Illinois Medical Society could be procured through you after they are printed in the Medical Journal would ask if I could have a copy of same. I believe that the Medical Society is doing great good in fighting and spreading knowledge of tuberculosis since laymen as well as the medical fraternity are alarmed at the inroads this disease is making. Among the fellow clerks of this office, 3 have been told by physicians that they are affected with tuberculosis, within the past 8 months. If there is any printed matter to be had which states how incipient consumption can be observed by a person, I would thank you for forwarding same to me.

Very truly yours,

M. Scharlach.

192 E. Fullerton Ave.

TENT COLONY AT OTTAWA FOR THE TREATMENT OF TUBERCULOSIS.

Ottawa, Ill., May 26, 1904.

To the Editor: It is apprehended that the greatest obstacle we will encounter in securing an appropriation for state Sanatoria will be the difficulty in convincing the public in general, and legislators in particular, that tuberculosis can be cured in this climate. The belief that certain attributes of the atmosphere such as rarity, dryness, equable temperature, etc., etc., have become so firmly established that it need not be surprising if we find it difficult to convert the skeptical to a contrary belief.

In anticipation of this obstacle, it is the opinion of those who have given the subject most attention, that an object lesson which shall demonstrate the improvement or cure of a few cases in this climate, will have

greater weight than an argument based upon what has been done for a multitude of cases in other states. With this end in view I have been induced to start a tent colony at Ottawa.

The site selected is ideal in every respect.

The equipment will be first class, combining all the comforts, and many of the luxuries of the home, with all the essentials necessary for treatment, such as pure air, good water and food, drainage, transportation, etc., etc.

In order to make the demonstration most effective in influencing the next legislature it is desirable to commence at once. The camp will be ready for patients by June 15th.

The success of the experiment will be fully reported from time to time in the columns of the Journal. Physicians, the friends of patients, and others interested will be welcomed as visitors.

Inasmuch as my motives are not selfish I ask the moral support of the profession in making the enterprise a success.

J. W. Pettit.

## State Items.

**Dr. A. C. Foster** of Bement has removed to Decatur.

**Dr. Ware Stevens** of Pawpaw, has been bound over to the grand jury under a charge of complicity in the death of a young lady, of that village, who died there recently.

**Dr. P. R. Langdon** of Kankakee who is wanted on a charge of murder for the death of Mrs. Chas. Carr, who died April 16, was arrested at Queenstown, Ireland, May 5, and will be brought back for trial.

**Dr. Augusta A. Linderborg** of 431 Center st. Chicago, was recently married to Ibrahim Kheiralla the founder and head of the Babist Central Church of the Manifestation. It is said the couple have removed to St. Louis to organize a church there.

The Michigan State Medical Society at its recent meeting appointed a committee to act with the State Bar association in its effort to secure state legislation for more desirable expert medical testimony in courts. The legislature also will be asked to establish a state sanitarium for the treatment of early stages of tuberculosis; to make a law to compel the registration of births as well as deaths; to pass a measure to prohibit the manufacture and sale

of toy pistols; and a law to limit the times when suits may be started for malpractice to one year, instead of three, as at present, after alleged injury occurs, and that suits may not be started after the patient's death.

## CHANGES MADE BY STATE BOARD OF CHARITIES.

### Statistics Regarding Epileptics in State as Returned to Board by Physicians—Cook County Has One-quarter.

The quarter bulletin issued by the State Board of Public Charities for the quarter ending March 31, 1904, was put out from the printing office recently and distributed. Besides giving the usual information regarding the condition of affairs at the various state charitable institutions, it has a map giving the reapportionment of the counties among the state hospitals for the insane and some statistics regarding epileptics in the state.

To the northern hospital for the insane at Elgin is assigned 1,210 inmates, of which Cook county is allowed 811; to the eastern hospital at Kankakee, 2,280 patients, of which Cook county is allowed 1,517; to the central hospital at Jacksonville, 1,290 patients; to the southern hospital at Anna 1,075 patients, and to the western hospital at Watertown, 1,065 patients.

The quotas assigned each county for the central hospital for the insane at Jacksonville is as follows:

Adams, 96; Calhoun, 13; Christian, 47; Fulton, 66; Hancock, 46; Logan, 41; Macoupin, 61; Mason, 25; McLean, 98; Montgomery, 44; Moultrie, 22; Pike, 45; Schuyler, 23; Shelby, 46; Woodford, 31; Brown, 17; Cass, 25; DeWitt, 27; Greene, 34; Jersey, 22; Macon, 65; Madison, 93; McDonough, 41; Menard, 21; Morgan, 50; Piatt, 25; Sangamon, 103; Scott, 15; Tazewell, 48.

#### Statistics on Epileptics.

Regarding the statistics as to epileptics the report says:

"In November, 1903, we sent a communication to every physician in the state, asking each to show on return blank, all cases of epilepsy of which he had knowledge together with the age and sex of each case.

"The response was not as general as we hoped for, although the data obtained was quite satisfactory and probably included seventy-five per cent or more of the epileptics of the state.

"Replies were received from 1,029 physicians, of which 760 were from the state at large, and 269 from Cook county. Of the total number, 197 reported no cases, and most of these physicians said there were no cases in their vicinity.

"We hope to have our efforts supplemented by a similar effort this year on the part of the State Board of Health to secure complete data on this subject.

"The counties in which the largest number of cases were reported are: Cook, 522; Fulton, 41; Will, 38; Vermilion, 38; La Salle, 36; Madison, 35; Peoria, 35; McLean, 33; Pike, 30; Adams, 28; Kankakee, 28; Marion, 27; Jo

Daviess, 27; Lake, 25; Tazewell, 25; Ogle, 25. These are exclusive of the cases in the county almshouses.

"There are 651 cases in the state institutions, 341 in the county almshouses, and 2,010 reported by physicians, making 3,002 cases of which we have positive information."

Regarding sex, the epileptics were distributed as follows:

Males—Outside Cook county, 910; in Cook county, 319; total, 1,229.

Females—Outside Cook county, 580; in Cook county, 201; total, 781.

## Marriages and Deaths.

### MARRIAGES.

Guy Dowdle, M. D., and Miss Winifred Warner, daughter of Hon. Vespasian Warner. Member of Congress and candidate for Governor, were married at Clinton, June 2.

L. W. Howe of Leonore to Miss Laurel Quinn, May 11th.

Chas. H. Phifer and Miss Eleanor L. Grover, both of Chicago, May 4th.

W. O. Sheller of Big Rock and Miss Emma Frost of Chicago, May 13th.

### DEATHS.

Carey, T. L., Chicago, May 2, aged 60.

Cooper, Chas. J., Penfield, May 21, aged 37. Dr. Cooper died of septic infection after 12 days of suffering. He was a graduate in 1902 of the Eclectic Medical College at Cincinnati and was a member of the Champaign County Medical Society and the State Society.

Crawford, C. H., Chicago, April 28, aged 47.

Evans, W. S., Marion, April 26, aged 95.

Freeman, J. A., Wellington, May 8, aged 76.

Livingood, Michael T., Rossville, April 6, aged 79.

Murphy, H. T., Chicago, April 16, aged 37.

Nifong, L. M., Modesto, April 30, aged 32.

Perryman, J. L., Belleville, April 22, aged 74.

Salter, E. W., Stronghurst, April 23, aged 34.

Stout, A. N., Ava, aged 44.

Van Ackeren, Fred, Elgin, April 26, aged 40.

Wilson, Isaac T., Quincy, April 24, aged 79. Dr.

Wilson was the oldest physician in Quincy and was a graduate of New York University in 1851.

Isham, Ralph N., Chicago, May 28, aged 73. Dr. Isham was one of the pioneer surgeons of the northwest for many years in charge of the Marine Hospital and consulting surgeon of the Cook County Presbyterian and Passavant Hospitals. He was one of the organizers of the Chicago Medical College now the Northwestern University Medical School.

Schaefer, Frederick C., Chicago, June 3, aged 55. Dr. Schaefer was a man of great industry and learning. He died suddenly.



## County and District Societies.

### MARSHALL COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually at different points in the county the second Tuesday of May and October. Membership 14.

#### Officers.

President ..... B. F. Forrest, Henry  
Secretary-Treasurer ..... J. A. Swem, Henry

The regular semi-annual meeting was held May 10. There was much interest and enthusiasm. A few new members were added.

### ALTON MEDICAL SOCIETY.

The following paper was read at a meeting of the Alton Medical Society, held April 14, 1904.

#### Eyestrain and the Sympathetic Nervous System.

Geo. E. Wilkinson, M. D. In the old University of Padua, Italy, is a tablet, whose Latin inscription translated into English reads about as follows: "To the alleviation of suffering and the prolongation of human life his work was dedicated." This tablet is placed to the memory of Sir William Harvey, the discoverer of the circulation of the blood, in the anatomical lecture room where he was a student during the palmy days of that institution. And, this inscription, I take it, should be the motto of every true and honest physician. Any factor, therefore, which causes pain and tends to shorten the duration of human life ought not to be overlooked.

It is a well established principle in life that every individual is endowed with a certain vitality, or power, which will last a longer or shorter period (depending upon the resistances with which it comes in contact) before disintegration sets in. It is, furthermore, usually conceded that every man has a certain amount of "nerve-force," part of which is stored up and is called-out in extreme emergencies. Now, it would seem a logical conclusion that no one could draw continuously from his reserve capital of nerve-force without ultimately exhausting it.

Within the past few years the attention of the medical profession has been called, more forcibly than ever before, to the fact that errors of refraction and accommodation of vision and the condition known as "muscular insufficiency" may constitute an important element in the causation of nervous disturbances of the so-called "functional type," and also of many symptoms referable to the viscera.

That some people are made dizzy from a height or inspecting a rushing waterfall is known by most everybody. That some people cannot ride on trains without having the "sick-headache" and others suffer pain in the head and are often made sick at the stomach by putting on glasses which give relief to a friend are common occurrences; but how few of us have drawn any lessons therefrom.

Most physicians know that a squint in the eye is often due to some defect in its refraction

or of weakness of its muscles, but how many know that such a squint will frequently disappear immediately when the proper correction of the refraction of the eye has been made.

Clinical evidences and cases to show that headache, gastritis, constipation, neuralgia, chorea, nervous prostration, and a whole train of reflex nervous symptoms may be cured or abated by correction of errors of refraction and muscular anomalies are omitted from this report. The effects of errors of refraction and muscular anomalies upon the eye itself were not discussed.

The following resolution was introduced by Waldo Fisher, April 14, 1904.

Resolved, That the Alton Medical Society request the editors of the Alton newspapers to kindly omit the names of attending physicians when reporting surgical operations and cases of sickness or accident.

### CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held the second Thursday in every second month. Membership 24.

#### Officers.

President ..... J. W. Kirk, Oblong  
Vice President ..... C. E. Price, Eaton  
Secretary ..... H. N. Rafferty, Robinson  
Treasurer ..... C. H. Voorheis, Hutsonville  
Board of Censors: W. H. Hoskins, Trimble; G. W. Fuller, Palestine.

The Crawford County Medical Society met in regular session at the office of Dr. Frank Dunham, in Robinson, May 12, 1904.

The following members and visitors were present: Dunham, Meserve, Firebaugh, Barlow, H. N. Rafferty and Burner, of Robinson; Cooley, Kirk, Edwards and Mitchell, of Oblong; Fuller and Gordon, of Palestine; Voorheis and Eaton, of Hutsonville; Midgett, of Flat Rock; Hayhurst, of Birds; Petty, of Westport; Price of Eaton; and Hoskinson of Trimble.

The minutes of the previous meeting were read and approved. Dr. I. L. Firebaugh read the first paper of the afternoon, his subject being **A Consideration of Pulse, Respiration and Temperature as Guides to Diagnosis and Prognosis**. This was a production of much force and clearness, and, taken in conjunction with the paper on **The Diagnostic Significance of Pain** read by Dr. Barlow some time ago, should be of much benefit to each of us in making diagnoses and prognoses that will stand the test of time. After a full discussion of this subject, Dr. E. M. Cooley read a paper on **Rural Obstetrics**, closing with a description of his manner of conducting an ordinary obstetric case in the country. That the subject of Obstetrics is of perennial interest to the society was made manifest by the full and lengthy discussion of this paper.

Dr. G. W. Fuller next reported a case of multilocular cyst of the ovary, exhibiting the specimen, which weighed eight pounds, and was well preserved. The case was operated on Sept. 16, 1903, by Drs. T. N. and H. N. Rafferty, and

the patient is now enjoying the best of health.

The revised fee-bill was next taken up for discussion, and was accepted, with such modifications and additions as the society saw fit to make during its reading. This scale is to serve as the minimum charge throughout the county, but gives the privilege of increasing the fees, where unusual service is rendered, in the opinion of the attendant. It was moved and carried that the secretary be instructed to send printed copies of this fee-bill to the members of the society.

On motion of Barlow, H. N. Rafferty was appointed delegate to the coming meeting of the State Society at Bloomington.

Dr. C. Barlow read an invitation to the society to attend the next meeting of the Jasper County Medical Society, which is to be held at Ste. Marie, Ill., on the first Friday in July. On motion the secretary was instructed to acknowledge the invitation by letter.

The society then adjourned, to meet at the office of Dr. A. G. Meserve, on Thursday, July 14th, 1904. This will be our annual meeting, at which time officers for the ensuing year will be elected.

#### CHAMPAIGN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Champaign at the Hotel Beardsley the third Thursday of each month. Membership 60.

##### Officers.

President.....S. S. Salisbury, Champaign  
Vice-President.....W. L. Gray, Champaign  
Secretary and Treasurer....Jas. S. Mason, Rantoul  
Censors.....C. H. Spears, H. E. Cushing,  
Champaign, and J. A. Hoffman, Pesotum.

The April meeting of the Champaign County Medical Society convened at 2:30 p. m., April 21st in Hotel Beardsley, Champaign, Dr. Salisbury, presiding.

There were present: Drs. Salisbury, Martin, Cushing, Wall, Howard, S. W. Shurtz, R. E. Shurtz, Johnson, Burres, Mandeville, Gulick, J. E. White, Lyon, Brayshaw, Kinchloe, Foelsch, C. P. Hoffman, Matheny, Spears, Kariber, Powers, Newcomb, Renfrew and Mason.

The following were elected to membership: Dr. F. S. Diller, of Rantoul; Dr. Ryerson, of Champaign and Dr. Rudy, of Champaign.

The application of W. M. Honn was read and referred to the Board of Censors.

Dr. John Martin, of Tolono, read a paper on **Influenza** and Dr. Joseph Brayshaw, of Homer, presented a paper on **The Coal Tar Products of the Benzine Group**. Both papers showed much individual research and were too carefully and scientifically prepared to permit of other than full publication.

A general discussion followed the reading of Papers.

The annual banquet of the society was given at 8 P. M. in the splendid dining hall of the "Beardsley." The spread was one of the most pleasing given by the Society in years and reflected credit upon the banquet committee and our genial Mr. Hatch. The presence of the physicians' wives and lady friends added an exceptional charm to the occasion.

Toasts were responded to by W. J. Fernald, of Frankfort, Ind.; H. E. Cushing, Jennie Lyon, C. D. Gulick, Jas. S. Mason, W. K. Newcomb and W. F. Burres. Dr. J. D. Mandeville acted as toastmaster.

#### DECATUR MEDICAL SOCIETY.

Regular meetings are held on the fourth Tuesday of each month. Membership 60.

##### Officers.

President ..... Lynn Barnes, Decatur  
Secretary-Treasurer ..... W. C. Bowers, Decatur

The Decatur Medical Society held its regular monthly meeting May 24th, 1904, at 8 P. M., in the Decatur Club rooms. President Lynn Barnes in the chair.

Dr. C. Martin Wood gave an interesting talk on **Observations in New York Hospitals**, where he recently spent six weeks.

He mentioned the fact that the operation of decapsulating the kidney is not done as much as formerly, because the results are not permanent or satisfactory.

Striking results were seen in tuberculosis by the use of one ounce of Russell's Emulsion of oils night and morning, with 6 or 8 weeks rest in bed and milk every hour up to six or eight pints per day. Many patients lost their symptoms, gained in weight and returned to work.

Robert T. Morris drains Proas Abscesses into the peritoneal cavity. He also drains a localized abscess of the appendix into the peritoneal cavity, after the acute symptoms have subsided and the patient is rapidly improving.

Dr. Chas. M. Wood, of Maroa, Ill., gave an excellent talk on a case of probable **Smallpox Resembling Purpura Hemorrhagica**. Smallpox was suspected early in the case, but later appeared as above stated, the patient dying. The remarkable part is that several severe and mild cases of genuine smallpox seemed to take their sickness from exposure to this case of apparent Purpura.

Dr. M. D. Pollock is yet too ill to do more than drive out short trips twice a day for recreation.

Dr. Will Wood is confined to the house by illness, but not serious.

The members took great interest in the meeting and the attendance was good.

#### PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 72.

##### Officers.

President ..... L. A. McFadden  
First Vice President ..... J. C. Roberts  
Second Vice President ..... B. M. Stephenson  
Treasurer ..... Jeanette Wallace  
Secretary ..... S. M. Miller  
Censors: E. M. Sutton, one year; A. J. Kanne, two years; F. B. Lucas, three years.

The Peoria City Medical Society met in the Observatory Building, Dr. L. A. McFadden, President, in the chair.

Dr. Cooper, of Peoria, was admitted to membership. The following resolution relative to the pure food bill was adopted:

Whereas, The adulteration and misnaming of foods, drugs and medicines offered for



sale in the markets in the United States has become a menace to the health and lives of the people and,

Whereas, "A Bill for Preventing the Adulteration or Misnaming of Foods or Drugs, and for Regulation of Traffic therein and for other Purposes, and designated as H. R. 6295" has been introduced and passed by the House of Representatives and is now pending in the Senate of the United States; be it

Resolved, That the Peoria City Medical Society indorse the provisions of said bill and urge the members of said body, and especially Senators Cullom and Hopkins, of Illinois, to use their influence to secure its passage and to cast their votes in favor of said bill.

Resolved, That we request the public press of the State of Illinois, and especially of Peoria County, to make known through their respective publications the provisions and importance of said legislation and give the same editorial comment and endorsement. Be it further

Resolved, That we request the citizens of the State of Illinois, and especially of Peoria County, to familiarize themselves with the provisions of said bill and if it meets with their approval to use their personal influence with our Senators to secure its passage.

R. A. Kerr,  
C. H. Probst,  
Clifford U. Collins.

A committee was appointed to obtain the publication of this resolution in the press of the city, and to obtain favorable editorial comment upon it, and to circulate a petition among prominent political leaders and business men, to be forwarded, together with a petition from the Society, to the committee on Manufacturers of the U. S. Senate. The committee appointed was S. M. Miller, Chairman; W. T. Sloan, and W. R. Allison.

The following resolution relative to the death of Dr. Paul Dombrowski was adopted:

Whereas, Through the intervention of death, Dr. Paul Dombrowski is no longer of our number; be it

Resolved, That the Peoria City Medical Society mourns in him the loss of a most excellent gentleman, a devoted student, a scholar of no mean attainments, and a most capable and conscientious practitioner of medicine. His position in medical affairs was such that his patients have lost a great benefactor and his fellow members a valued consultant and operator. His relations to Peoria and her citizens were unostentatious, but in every quarter, from homeless children to social and business leaders, he is most sincerely mourned.

Resolved, That while this Society may add nothing to the high esteem in which he was held by those who knew him, or fittingly express in words the tribute it would pay the man and the physician, that this acknowledgement of our appreciation of him and of the loss to the Society brought by his untimely death be given the bereaved family of the deceased, the press of our city, and made a part of the records of the Peoria City Medical Society.

A committee was appointed for the purpose of incorporating the Peoria City Medical Society. The committee consists of Dr. A. J. Kanne, E. M. Sutton, and M. V. Gunn. Dr. M. S. Marcy was appointed delegate of the society to the State meeting.

Dr. C. H. Brobst read a paper on **The Relation of Eye Symptoms to General Diseases.**

Dr. Collins reported a case of Tuberculosis of the mesenteric glands.

#### Eye Symptoms in Neurasthenics.

Dr. C. H. Brobst. It is a common occurrence for the oculist to be consulted by patients who are suffering with eye symptoms that are merely a reflex; the result of a constitutional disease or the result of some toxic substance taken into the system by accident or by design or in the form of drugs which are taken in excessive doses. Possibly the class of patients that come under our care, and give us the most concern and the poorest results in point of treatment, are the neurasthenics who are found in both sexes.

The female sex, however, predominates, and when the ophthalmologist is so unfortunate as to have placed into his care a male who is a suffering neurasthenic and, the eyes being the principle centre of attraction, it is well, if he does not lose his patient, possibly by mutual agreement before he has made any decided inroad upon the disease.

The majority of these neurasthenic cases are women who are referred to us by the family physician. The symptoms in nearly all cases are characteristic in their sameness. They are usually referred to the oculist to have the refraction corrected, because the patient complains of headache from using the eyes, and, bright light is almost intolerable and they claim that they are unable to see well with or without glasses in artificial light.

Headache in the occipital region and pain in the balls of the eyes on rising in the morning are also symptoms. Often these patients see double when they are fatigued. Undue excitement, or riding on a rail-road train and looking through the window at fast moving objects will bring on headache and nausea.

Some of my patients have suffered periodic attacks of megrim. For a number of years there have been a host of observers, among whom are the ophthalmologists, who have tried to find a true etiology of this disease, and who have cited such factors as errors of refraction, hypermetropia, myopia, astigmatism, and the most potent factor of all which is held up before us at the present day, as being the cause of imaginary ills, is muscular imbalance.

There is no denying the fact, but the oculist's claims as to the cause of neurasthenia in some of the cases are well founded. Out of fifty-two cases tabulated from my records, suffering from extreme nervousness, pain in the eyes, insomnia and indigestion, symptoms which were more or less ascribed to some refractive error or muscular imbalance, I found on examination that forty-two, or eighty per cent., had some

error of refraction and in most of these cases the principle error was astigmatism, all of these cases having materially benefited and some of them completely cured. As to the muscular imbalance in this class of cases, which of late has been so much written about, and which has been given the credit of being the chief etiological factor in the majority of these neurasthenics, after a thorough examination of my cases I found that thirty-three, or sixty-three per cent. had more or less muscular trouble and would have accepted prisms in combination with other lenses, but in only six, or eighteen per cent., was it necessary to adjust prisms to correct the disturbed muscular equilibrium, and in all of these cases it proved to be a remedy giving great relief, and in a few cases complete cure for all attending nervous manifestations.

However, through experience gained by following up many neurasthenics, who have more or less manifestations of muscular imbalance, I am convinced that in the majority of the cases this is only a symptom of a deteriorated and exhausted nervous system rather than a primary cause.

Physical exertion due to over work, worry or loss of sleep are usually the exciting causes of the eye symptoms and muscular insufficiency, that is, where ametropia cannot be held responsible for any of the reflex neuroses.

All the etiological circumstances which I have enumerated generally present themselves at once to the mind of the physician in the presence of a muscular paralysis of the eye.

A careful examination will enable us to eliminate the majority, by directing our attention more especially to certain ones among them. Generally, affections of this kind, when they arise in young and apparently healthy individuals, when not due to traumatism, are of rheumatic or syphilitic origin. Hence one should suspect syphilis in such a case, and should inquire concerning the patient's morbid antecedents. If the affection began subsequent to exposure to cold, and is accompanied by frontal and periorbital pain with painful sensations when the eyes are moved, it is likely to be of rheumatological origin. If neither of these two causes appear to be in action it is best to seek for symptoms of tabes dorsalis; the abolition of the patellar reflexes, and—a symptom much more characteristic—the immobility of the pupil under the influence of light, its contraction accompanying convergence. (Argyle Robertson, pupil.)

The urine ought always to be examined, in order to learn whether or not it contains albumen, or sugar.

If all these investigations remain without result, we may investigate the possibility of the eye symptoms being due to poisoning by lead, diseased meat, tobacco, alcohol or other injurious substances; finally hysteria has to be taken into account.

The nature of the paralyses which follow diphtheria will soon be recognized by the history of the case. The latter, however, ought to be peculiarly exact, considering all the details.

## LIVINGSTON COUNTY MEDICAL SOCIETY.

Regular meetings are held at Pontiac the first Thursday of May and December. Membership 35.

### Officers.

President ..... J. J. Stites, Pontiac  
Vice President..... E. H. Fitzpatrick, Pontiac  
Secretary..... John Ross, Pontiac  
Board of Censors: E. E. McCoy, Flanagan; James M. Mitchell, Pontiac and G. T. Carson, Chatsworth.  
Delegate to State Society..... G. C. Lewis, Fairbury

Twenty members of the above Society met in the City Hall at Pontiac and held their seventh semi-annual meeting, May 5th.

Dr. P. C. Wikoff of Emington and Dr. M. C. Brookshire of Graymont, were admitted to membership.

Officers were elected as above.

The next meeting of the Society was postponed until the first week of December, when the North Central Illinois Medical Society will be entertained by the County Society. Drs. Ross, Baker, Scouler, Marshall and Mitchell were appointed to make arrangements for the visiting Society.

The following program was heard:

**Neurasthenia**, H. M. Presler, Cullom. Discussion led by J. J. Pearson, Pontiac.

**Diet in Diseases**, J. M. Mitchell, Pontiac. Discussion led by E. E. McCoy, Flanagan.

**The Past, Present and Future of Medical Practice**, H. E. Johnson, Fairbury.

**H. E. Johnson:** When I began to select a subject for this paper, there seemed to be so many and varied topics of interest to our profession, that I was as the saying goes, "up against it." To choose any of the many diseases which I had treated was to thrash over the old straw and the chances were that my experiences would be of little benefit to this Society; for, "convince a man—against his will, and he is of the same opinion still." Believing that this would be a good time to compare the medical profession of the past, with the present and imagine what it will be in the future, I am going to risk being called an old back number and choose for my subject, "The Old and the New."

I wish to make it plain, in the beginning that I am not prejudiced in favor of the old, and that I believe that there has been greater advancement in medical and surgical practice in the past fifty years than in any other science, but I believe it never will be an exact science. Yet I sometimes think that in our zeal, push and anxiety to be ahead, we are lowering the standard of morals and medical etiquette. I think there is a possible danger of our losing sight, in a measure, of the duty we owe to our patients and to society, thus becoming a class of specialists and riding a hobby into a rut.

In order that I may be fully understood, I will say that forty-seven years ago, I began practicing medicine in one of the back hill towns on the Green Mountains, fifteen miles from a railroad or drug store. The nearest doctor on the north being Dr. Tucker, six miles away, and on the south Dr. Smith, also six miles. Both of these men had been practicing there for fifty years; they were neither



of them graduates, neither of them had ever attended a medical school; probably neither of them ever saw a medical journal, nor had they more than three or four medical books, they would not have read them if they had them. What knowledge they had of anatomy, physiology, *materia-medica*, or surgery, they had learned from observation and word of mouth. Microbes, septicemia and blood culture had no terrors for them; they had never heard of such things, yet they had learned to pin their faith on one of our best antiseptics—calomel.

They did not use the stethoscope, phonendoscope, fever thermometer, nor hypodermic syringe, but with crude drugs, which I will name later, with sterling characters, and good common sense they were successful. A young doctor visiting Dr. Tucker and on seeing him putting up some powders by guess, said: "Doctor we were taught to use druggists scales and weigh all of our medicines before prescribing." Dr. Tucker replied that the plan would be all right, if he had a set of Fairbank's scales to weigh the patients first, and that there was as much sense in the one as in the other.

What was true of Drs. Tucker and Smith was true of all the cross-roads doctors of fifty years ago. Their armamentarium and stock consisted of an office on the same lot with their dwelling. In that office you usually found a wedge wood mortar, a set of crude scales, roots, herbs, powders and a few bottles containing ammonia, turpentine, castor oil and perhaps a few containing homemade tinctures and effusions. The powders consisted of gum opium, gum guaiac, camphor, rhubarb, mandrake, calomel, jalap, dandelion root; herbs of all kinds carefully gathered and dried. These doctors had no tablets nor pills (except home made ones), nor druggists' prescription blanks, nor were they ever bothered with substitution—giving something better than that prescribed. With this stock of medicines, without telegraph, telephone or brother physicians to consult in an emergency, these old time practitioners had to rely on themselves.

The doctor would go forth on horseback with his old fashioned saddle-bags, or in his one horse shay, making his rounds to visit the sick and comfort the afflicted. He employed no graduate nurse, neither did he need one, for he was an adept at nursing himself. He never heard of such a thing as Christian Science, but he did understand suggestive influence and practiced it for all it was worth. He was an excellent story teller and usually had one ready to fit any and all occasions. He always brought sunshine and good cheer with him and always gained the confidence of his patients, and his presence at the bedside always gave hope and encouragement. I have often wished that I could find a physician of the present day in whom I could have the confidence that I once had in old Dr. Washburn, my father's family physician.

These old doctors were important personages in every community, generally they were the Justice of the Peace, and usually the local preacher. They attended all births, practiced in the families, married the marriageable, acted as

undertaker, and preached the funerals for generations. They knew all family secrets, constitutions, idiosyncrasies and hereditary taints, which gave them great advantage over a stranger.

These old doctors understood counter irritation such as cupping and blistering with Spanish flies. They used the most depletory remedies using the lance for blood-letting unsparingly. Calomel and jalap were nearly always given. They were successful in treating lung fever, congestion of various organs, erysipelas, puerperal convulsions, child bed fever, canker rash and measles. In eight years that I was practicing there I remember but one death from child bed fever and that case was not seen by either physician until about twelve hours before death.

These physicians knew the benefit of emetics and usually prescribed them (they called it a puke) to clear the stomach. They did not know that it relieved the portal congestion, but they knew it often relieved the distress and that was what they desired. They had none of the coal tar prescriptions, morphine, codein nor heroin; but they did have crude opium, and this was their sheet anchor in all pains. They had no quinine nor any of the alkaloids of Peruvian bark, but they had the bark and knew how to use it in powders or effusion. It was rather a bitter dose but it did the work.

These doctors had no strychnine, nor nuxvomica; but they had dog buttons and foxglove. They had very few cases of heart disease to treat and never heart failure. They knew by experience the action of skunk cabbage, night shade, poison hemlock, lobelia, blood root, snake root, Indian turnip, green meadow, smart root, boneset, peneroyal, tansy, catnip, hand hack, nut gall, oak, wild cherry, hops, pumpkin and watermelon seed. All of these and many more they had in crude form. I ask if we take what I have mentioned, if there is not some element in some one of these, that will meet nearly every condition which we find today. The only difference is in the elegance, convenience and taste of the manufactured preparations.

These physicians in their obstetrical and gynecological practice were uniformly successful. They usually succeeded in delivering the child without exposing the mother's person and without any laceration. They seldom used obstetrical forceps or other instruments. It was a very rare occurrence to find a lacerated perineum, fistula, ulceration or any of the various female diseases which are the bane and curse of the women of the present day. They knew nothing about antiseptic and prophylactic treatment but they insisted upon cleanliness and rest. The strength and health of the motherhood of fifty years ago, who invariably bore and cared for large families was in every way superior to our modern mothers who rear one or two children, this is a fact, that none can deny, the cause of this degeneration I cannot stop to discuss but I do know that the cross-roads doctor did not cause it.

He did not claim to be a dentist but he was ready to pull teeth at any and all times and places. Persons with tooth ache meeting this

old doctor any place could have the offending member extracted. I have here a tourniquet at least one hundred years old, it had done good service, but not for many years, when the doctor got this hitched on, something had to come or bleed, usually both happened.

This cross-roads doctor as a surgeon, showed judgment, skill and inventive genius, when you remember that he had limited knowledge of anatomy. He had no anaesthetics, a limited number of instruments which were of the crudest kind and workmanship, and he was thus compelled to depend upon his mother wit and judgment. He managed to perform many difficult operations, which would puzzle some of our ablest surgeons of today, were they hampered as much and had as little to do with as the old doctor had. I remember when I was a small boy, that an old lady in our neighborhood, in falling broke her leg below the knee. Dr. Washburn was hastily sent for, the messenger told the doctor that the bones were sticking out below the knee. On his way to the patient he borrowed a saw and a piece of inch board. He sawed the bone off as near to the flesh as possible and made an open box of the board. While two strong men pulled on the foot, he adjusted the fracture, he placed the limb in the box, padded and held it in place with home made tow from flax. Fastened a rope to the foot, drew the rope over a spool which he had fastened to the bedstead and used brick for weights. He ordered the limb to be bathed in cold wormwood tea. He got perfect union, with but little shortening. Could you conceive of a more antiseptic treatment? I have seen a number of cases of compound comminuted fractures and amputations attended by these old surgeons without any especial antiseptic precautions, with crude ill kept appliances and instruments almost invariably with success. In contrast to this I will say that some five or six years ago, a healthy young man fractured his leg, a simple fracture below the knee, he received a punctured wound at the same time about two or three inches below the fracture. He was attended by two modern surgeons who were supposed to use and probably did use all antiseptic precautions, but sixteen days after the accident his limb was amputated above the knee. A few years ago as I was passing a farm house, not ten miles from this city, I was hailed by the occupant, who wanted me to see his daughter, who had been kicked by a horse, two days before. The flesh had been torn making quite a large wound in her cheek. The father had sewed it up taking six or eight stitches with a common needle and black linen thread, without washing or in any way cleansing the wound, in fact it had not yet been washed at the time I saw it. The father wanted to know how long he should leave the stitches in and I must confess that I did not know what to advise. She is a young lady now, with but a very little scar, not enough to mar her looks. Sometime ago I was called to attend a boy some fifteen or sixteen months-old, in one of the dirtiest, filthiest homes in our city. He had put his hand into a pail of hot water, the skin immediately peeled off, not leaving a particle of skin on any part of

the hand. The surroundings were so filthy that not a piece of cloth could be found fit for an outer covering. Every time the hand was dressed it would be in the most filthy condition, yet it healed quickly and perfectly without any deformity. How often we have burns not so extensive as this that are treated by modern methods, surrounded, by the best sanitary conditions, which cannot be healed without skin grafting. I could multiply instances without number equally as plain as these; and I ask why is it so. Shall we ever be able to prove to the laity that we have solved the problem, why one accident or wound does badly and one equally as bad and not so well surrounded does well.

Thinking some may call me an old fogey and a stickler for the old, I deny the charge. I simply state facts as I find them and say that I am as anxious as anyone to solve these problems, and believe in taking all the precautions possible to fight the bacteria, but I must confess that the medical profession of today and the past few years are running to extremes, and by so doing are lowering the standard of medical influence.

A few years ago the medical journals and secular press were full of notices of operations for the removal of the appendix. It became a fad. It was thought if grape seed, cherry pits, or other like substances dropped into this pocket it was sure death unless you were cut open and the offender removed. Now one of the shining lights of our profession says that it is all a fallacy, that foreign substances, such as above mentioned, cannot get into the appendix in normal condition. Medical experts and chemists will, under oath, contradict each other. You can prove anything by them.

For the past few years there has been in our section an epidemic of tumors. Many have been removed from the womb, ovaries and fallopian tubes. It has been very fashionable to go to the city hospital and have them removed, and it is generally understood that the home doctor gets a rake off or a divide with the surgeon who does the cutting and it is generally believed that very many of these operations are not necessary and many not honestly performed as reported. I know of a woman who was sent to one of these hospitals for an operation. The operation cost the husband between four and five hundred dollars, and in less than a year the woman gave birth to a healthy boy. The operation may have been worth all it cost, but it will take a good deal of argument to convince this couple that it is a positive cure for sterility. I will not recommend it to any of my patients for that purpose. These, gentlemen, are facts, as I have seen them and I ask in all seriousness, with these conditions of affairs, is it any wonder that people will patronize patent medicine venders, advertising quacks and traveling doctors. Can we expect to retain our position or influence and confidence with the public, that our profession should have? Fifty years ago if a physician became established as family physician in a family it was a permanent thing. I ask of each of you, how many families can you depend upon to employ you steadily? Very few. Why is



It? Is it because they are more fickle and anxious to experiment than formerly, or is it because they are losing confidence in our honesty or skill? I think we would do well to study the drift and tendency of our position and see where we are drifting. I believe ours is the most useful and noble profession, but the hardest worked, poorest paid, and most thankless.

In conclusion, gentlemen, I want to say: Do not despise and look down upon cross-roads doctors of one hundred years ago, but remember that they were the advance guard, who blazed the path through the trackless forest of ignorance and broke the fallow ground that has enabled us to put in the seed, and made it possible for us to reap a harvest that shall be an honor to our profession and a blessing to mankind, if we only heed the lessons which they taught us, and if we practice with the same honesty that they did. I for one would certainly doff my hat to him should I meet him again.

Discussion led by J. D. Scouller, Pontiac.

**Empyema**, Milton Palm, Dwight. Discussion led by J. A. Marshall, Pontiac.

**Some Unclassified Morbid Conditions Met With in General Practice**, E. H. Fitzpatrick, Pontiac. Discussion led by A. H. Thatcher, Fairbury.

Resolutions congratulating Dr. A. B. Middleton, upon his recovery from his recent illness were passed by the Society.

#### ST. CLAIR COUNTY MEDICAL SOCIETY.

Regular meetings are held at Priester's Park, Belleville, the first Thursday of January, April, July and October. Membership \$1.

##### Officers.

President .....	C. H. Starkel
Vice President .....	W. E. Wiatt
Treasurer .....	A. E. Hansing
Corresponding Secretary .....	C. W. Lillie
Recording Secretary .....	B. H. Portuondo

The St. Clair County Medical Society held its annual meeting at Priester's Park, April 7, 1904, with President Lillie in the chair, and the following members present: Drs. Hilgard, Scruggs, Adams, Sloey, Rayhill, Zimmermann, Herold, Wangelin, Massie, Kerchner, W. E. Wiatt, Raab, Gunn, Irwin, Hansing, Whitmer, Cannady, H. G. Hertel, Reis, J. W. Twitchell, Starkel, and Portuondo. As visitors Drs. A. L. Reuss, John O. Butler, Elmer Scheve, Frank G. Huwatehek.

Roll call showed all officers and censors present except Dr. Rembe.

Minutes of the preceding meeting were read and approved.

Dr. Massie reported two very interesting cases; one was illustrated by photographs showing what appeared to be scar tissue on the leg of a child born with those marks, attributed by the mother to having seen an ulcer on the leg of her mother-in-law during her pregnancy. Dr. Lillie, in discussing this case, said that, with the great majority of the profession, he looked upon instances of this kind as mere coincidences.

Dr. Massie's second case was one of tetanus developing, he thought, on the third day after sustaining an injury of one of the fingers. The patient presented all the clinical symptoms of

tetanus, was treated antitoxin every three hours, also with esserine, sodium bromide, and chloral, and made a perfect recovery in fifteen days.

Dr. Whitmer said that the period of incubation was unusually short in this case, as it takes longer than three days for the bacillus to develop in the test tube.

Dr. Zimmerman stated that he has had three cases of tetanus and that the period of incubation was only four days in all of them.

An amendment to Article 7 of the Constitution of the St. Clair County Medical Society, signed by Drs. Lillie, Hansing, and Portuondo, and providing for monthly meetings, instead of quarterly, was, in accordance with the Constitution, referred to the next regular meeting for action.

A question by Dr. Hilgard, corresponding secretary, as to whether he should invite all physicians in the county to join the Society or only such as were graduates of regular schools, led to a very interesting and general discussion participated in by Drs. Hilgard, Whitmer, Adams, Raab and Portuondo, as a result of which Dr. Portuondo, seconded by Drs. Hilgard and Irwin, presented the following:

Resolved, That the term "regular" in the constitution, be held to mean any one who can secure the endorsement of three members of this Society.

After explaining that the sole and only object of this resolution was to give an opportunity to a number of very worthy and honorable members of the profession who were now practicing medicine according to the tenets of the regular profession; but who were not graduates of regular medical schools, to have their names presented as candidates for membership and thus allow the board of censors to pass upon them. The vote on the resolution resulted in a tie and President Lillie cast the deciding vote in the affirmative, stating that he did so because he felt confident that only worthy practitioners could secure the endorsement of three members of this society.

Bills amounting to \$4.64 were allowed and ordered paid.

Dr. Wangelin called attention of the Society to the fact that a new county physician is to be appointed soon, and suggested that the Supervisors be requested to increase the salary as at present the county physician, with a great deal of work to do, is paid only \$700 per year. A general discussion followed, all agreeing to the necessity of doing something to remedy the injustice done the county physician.

A committee, consisting of Drs. H. Wangelin, H. G. Hertel, and A. E. Hansing, was appointed to draw resolutions to be presented to the Board of Supervisors. The committee reported as follows:

Be It Resolved, That it is the sense of the St. Clair County Medical Society that the salary of the County Physician at Belleville should be raised to at least \$1,200, and the salary of the East St. Louis assistant to \$1,000.

The resolution was unanimously adopted, and the Secretary was instructed to send a copy of it to each supervisor.

Dr. Irwin was appointed to act as member of the Board of Censors in place of Dr. Rembe who was absent.

The Board reported favorably upon the following applicants for membership and all were elected by unanimous vote of the Society: Drs. R. X. McCracken, John O. Butler, Frank G. Huwatehek, A. L. Reuss, Elmer Scheve.

The Treasurer reported cash on hand \$75.39.

Dr. C. W. Lillie, as retiring President, read a very scholarly valedictory, replete with good, sound, practical advice that was greatly appreciated by all members present, and on motion was ordered to be printed in the official organ of the Society, and to be made a part of the records.

A committee, composed of Drs. Gunn, Adams and Kerchner, was appointed to present nominations for the different offices of the Society, this being the Annual meeting at which the officers are to be elected.

The committee report was unanimously adopted by a vote of the Society and the above gentlemen were elected.

A vote of thanks was tendered the retiring officers.

The new officers were installed and the society adjourned to meet again in July.

#### BELLEVILLE MEDICAL ASSOCIATION.

##### Officers.

President ..... A. Scheel  
Vice President ..... E. P. Raab  
Secretary-Treasurer ..... B. H. Portuondo

The physicians of Belleville, Ill., at a meeting held May 6, 1904, organized the Belleville Medical Association. Officers were elected as above. A committee was appointed to report at the next meeting, May 31, a constitution and by-laws for the association.

#### WESTERN ILLINOIS DISTRICT MEDICAL SOCIETY.

Regular meetings are held on the first Friday in May and the last Friday in October, at such places in the district as may be selected by the Board of Censors.

Membership 60.

##### Officers.

President ..... H. A. Chapin, White Hall  
First Vice Pres ..... A. K. Van Horn, Jerseyville  
Second Vice Pres ..... H. W. Smith, Roodhouse  
Secretary-Treasurer .. H.W. Chapman, White Hall  
Censors: T. J. Pitner, Jacksonville; Waldo Fisher, Alton; F. A. Clement, Greenfield.

Report of annual meeting of the Western Illinois District Medical Society, held in Jacksonville, May 6, 1904.

Promptly at twelve o'clock, noon, an elaborate dinner was served in a private dining room of the Pacific Hotel, where the members of the Society and their guests were duly and amply fortified for the labors of the afternoon.

At 2:15 p. m., the Society was called to order in the rooms of the Carnegie Public Library, by the President, F. P. Norbury, of Jacksonville.

The officers as named at the head of this report were elected for the ensuing year.

Dr. Harold W. Jones of St. Louis read a very interesting paper on **The So Called Rheumatic Diseases.**

Dr. J. W. Hairgrove of Jacksonville, read an equally instructive paper on **Uterine Treatment.** Dr. H. A. Potts of Jacksonville, read a very able paper on **The Value of Blood Examinations in Differential Diagnosis.**

These papers were all discussed freely.

There were present thirty-one visitors and members.

#### MERCER COUNTY MEDICAL SOCIETY.

Regular meetings are held at Aledo, quarterly.

Membership 25.

##### Officers.

President ..... C. W. Carter, Aledo  
Vice President ..... H. I. Allen, New Boston  
Secretary and Treasurer .. V. A. McClanahan, Viola  
Censors: H. H. Sherwood, E. J. Hay, P. T. Bohan

The annual meeting of the Mercer County Medical Society was held in the Court House, Aledo, May 10, 1904.

The forenoon session was devoted to business transaction of officers, reports of committees, etc.

The officers were elected for the year: See above.

Prior to the afternoon session the physicians and their wives enjoyed a splendid dinner prepared for them at the Palace Hotel.

Society was called to order by President-elect Carter and elected Dr. A. N. Mackey delegate to the annual meeting of the State Society and Dr. C. W. Carter, alternate.

Society then listened to an address by retiring President Fletcher on **The Objective and Subjective Mind.**

The Society then listened to an address by District Councilor Percy, of Galesburg, on **The Relation of the Local to the State Society.**

Dr. D. I. McMillan, of Sunbeam, read a paper on **Appendicitis** and this was followed by a paper on **The Doctor and Pharmaceutical Specialties** by Dr. H. H. Sherwood, of New Windsor.

All of the addresses and papers were enjoyed thoroughly discussed by the members.

The papers and addresses were good, a feeling of harmony and good fellowship prevailed and the meeting was a success.

The next meeting is to be held in July.

#### CLINTON COUNTY MEDICAL SOCIETY.

##### Officers.

Regular meetings are held on the first Tuesday of February, May, August and November.  
Membership 18.

President ..... Ph. H. Leibrock  
Vice President ..... B. J. Meirinke  
Secretary ..... C. H. McMahan  
Treasurer ..... T. E. Alsop

The Clinton County Medical Society held its regular annual meeting in Carlyle Wednesday, May 4th, with the following members present: W. P. Gordon, P. H. Leibrock, S. H. Wilcox, Th. Gaffner, A. W. Carter, B. J. Meirinke, T. E. Alsop, C. E. Hill, F. H. Brown, C. H. McMahan.

Meeting was called to order by President Gordon who informed the Society that it was to be his pleasure to entertain the members during the day. The hour being almost noon the



meeting was adjourned until 2 o'clock, the members proceeding to the home of Dr. Gordon, where a bountiful dinner was spread.

At 2 o'clock, p. m., the meeting was again called to order and after the usual preliminary business the Society selected the above officers to act during the ensuing year.

An interesting case of delayed resolution following lobar pneumonia was presented by Dr. Gordon, which was followed by a discussion of the subject.

Dr. W. P. Biles of Carlyle was a welcome visitor of the Society during the day, and read an interesting and instructive paper on **Eye Strain and its Relation to Reflex Disturbance**.

The next regular quarterly meeting will be held in Trenton on the first Tuesday in August.

#### ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.  
Officers.

President ..... L. H. A. Nickerson, Quincy  
First Vice Pres ..... John A. Koch, Quincy  
Second Vice Pres ..... J. M. Grimes, Camp Point  
Secretary ..... Geo. E. Rosenthal, Quincy  
Treasurer ..... R. J. Christie, Jr., Quincy  
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.  
Delegate State Society. E. B. Montgomery, Quincy

The May meeting of the Society was held at the Chamber of Commerce, May 9th, President Nickerson, being in the chair.

The following members were present: Drs. Nickerson, Center, Grimes, Gilliland, Rosenthal, Koch, J. W. Williams, Fletcher, Vasen, Christie, Jr., Knapp, W. J. Nichols and Montgomery.

Dr. C. D. Center presented an admirable paper on **The Harmfulness of Long Continued Drainage in Empyema Cases**. While the paper bore particularly upon pleural empyemas the deductions and treatment would apply to collections of pus in any of the body cavities, in some degree.

The etiology and bacteriology of the malady were considered fully, prognosis would depend on the nature of the infecting agent, the pneumococcus exudate being favorable under most conditions, a sterile pus indicative of tuberculosis and the streptococcus would suggest sepsis elsewhere.

Processes resulting from the presence of each of these bacteria calling for differentiation in the line of surgical and general treatment. The inflammatory pleuritic thickening results in limitation of the expiratory excursion and being a scar tissue ends in contraction, this further decreasing excursion. In some cases the pleura becomes so thickened, leathery and heavy as to cause compression of the air cells by its weight alone.

Desirability of pus evacuation from the pleural cavity is not disputed, the point taken being that the presence of the drainage tube after from three to ten days encourages pleuritic thickening by the presence of mechanical irritation and, again the drainage tube can not be maintained sterile in a pus cavity, in addition, by introducing a tube into a pleura

containing a sterile product we erect an atrium for the infection of an exceedingly fertile culture medium.

The doctor prefers thoracotomy without rib resection if the case is not one of long standing. His objections to resection being that the chest wall is weakened, chest motion so, restricted and lung collapse favored.

A short drainage tube is advocated, one reaching just through the chest wall being in some cases all that is necessary. From the time of withdrawal of the tube until recovery caution should be used in regard to the amount of irrigating fluid, as the mere weight thereof is sufficient to break down the new formed adhesions which are to result in closure of the sinus.

Certain gymnastics—deep inhalations, extension of arms above and behind the head and hanging by the hands on a horizontal bar are recommended to obliterate the unnatural cavity in the pleural fold and to expand the lung.

The paper was closed with a report of cases in children treated without rib resection and with little or no irrigation, these terminating in good recoveries.

Drs. W. W. Williams, Gilliland, R. J. Christie, Jr. and Montgomery took part in the discussion which was closed by Dr. Center.

Dr. Christie reported a case of **Chronic Gastritis Greatly Benefited by a Gastro-Enterostomy** after medicinal and dietary treatment had failed. The anastomosis was done with a Murphy button, button was passed on the twelfth day and patient discharged on the twenty-first. Anastomosis was between stomach and jejunum, no vicious circle resulted.

Dr. Rosenthal reported a case of **Obturator Hernia** with strangulation and necrosis of intestine, patient defecates through a foecal fistula 1½ inches below middle of pouparts ligament.  
Adjournment.

#### DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month  
Membership 62.  
Officers.

President ..... Lynn M. Barnes  
Vice President ..... Clara Garber  
Secretary-Treasurer ..... W. C. Bowers  
Board of Censors: E. A. Morgan, F. M. Anderson, J. Stebbins King.  
Program Committee: W. C. Bowers, Chairman; E. J. Brown, W. C. Wood, A. Wilhelm, L. M. Barnes.  
Delegates to the State Society: Cass Chenoweth, W. C. Bowers, E. J. Brown.

The Society held its annual meeting on Tuesday evening, April 26, 1904, at the Decatur Club rooms, for the election of officers.

Preceding the election Dr. Cass Chenoweth read an interesting and practical paper on **Cerebral Hemorrhage**.

Dr. Ben Bachrach opened the discussion and was followed by several other members of the Society.

The Society will probably at some time in the near future have a permanent home in the Medical Room of the Public Library.

A vote of sympathy and flowers were sent Dr. M. D. Pollock because of prolonged sickness

following an injury of the head sustained from falling at night in a stairway at his home several weeks ago.

The above officers were elected for the ensuing year.

Dr. S. E. McClelland, the retiring president, gave a smoker to the Society during the evening which was greatly enjoyed.

The past year has been a very pleasant and profitable one for the Decatur Medical Society.

#### PIKE COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly. Membership 32.

##### Officers.

President ..... H. T. Duffield, Pittsfield  
Vice President ..... W. E. Shastid, Pittsfield  
Secretary and Treasurer ..... R. H. Main, Barry

At a meeting of the Pike County Medical Society held at Pittsfield, Ill., April 21, 1904, the following members were present: Drs. J. Smith Thomas, W. E. Shastid, L. J. Harvey, F. M. Crane, B. B. Dunn, Geo. A. Humpert and H. T. Duffield. Dr. J. E. Miller was present as a visitor.

Dr. Harvey moved the adoption of the following resolution which carried:

Resolved, That the Pike County Medical Society fully endorses the provisions of House Bill No. 6295, entitled "A Bill for Preventing the Adulteration of Foods or Drugs and for regulating traffic therein and for other purposes"—and respectfully request that the same be enacted into law at the earliest practicable moment, and that this resolution should be brought to the notice of Senator S. M. Cullom, and others.

The above officers were elected for the ensuing year.

The following were elected to membership in the Society: Mary Henry of Summer Hill; W. H. Garrison of Pearl and Harold Cromwell of Nebo.

Dr. B. B. Dunn read a paper on **Neurasthenia** and reported a case which was discussed by Dr. Harvey.

Dr. Duffield reported a case of **Compound Dislocation of Ankle** which after resection of lower end of tibia made a good recovery and useful joint.

Conservative surgery was discussed generally by all members present.

#### DOUGLAS COUNTY MEDICAL SOCIETY.

Regular meetings are held at Tuscola. Membership 24.

##### Officers.

President ..... W. A. Wiseman, Camargo  
Vice President ..... E. S. Allen, Arcola  
Secretary ..... W. C. Blaine, Tuscola  
Treasurer ..... W. E. Rice, Tuscola  
Board of Censors: J. L. Reat, Tuscola, C. Rutherford Newman and Lockwood.

The eleventh annual meeting of the Douglas County Medical Society was held in the K. of P. hall, Tuscola, May 5, 1904. The following members were present: Voyles, Reat, Rice, Brenton, Allen, Wiseman, Colyer, Harper, Ewing, McNeil, Rutherford, Martin, Lockwood and Blaine.

The minutes of the last regular meeting were read and approved.

The President appointed Drs. Voyles and Allen as Representatives and Colyer and Ewing as alternates to the State Society.

An admirable paper was then presented by Dr. G. M. Harper of Villa Grove on the **Surgery of Empyema**, which was discussed by the various members present. Also a very worthy paper was presented by John Ewing of Tuscola. Subject, **Movable Kidney**. The discussion was opened by Dr. Cyrus Rutherford of Newman.

The County Fee Bill was then read, discussed and unanimously adopted.

The above officers were elected.

The Society adjourned to the Beach House where an elegant banquet for 35 plates had been prepared by the committee in charge.

#### LA SALLE COUNTY MEDICAL SOCIETY.

Meetings are held annually. Membership 50.

##### Officers.

President ..... F. A. Guthrie, La Salle  
Vice President ..... C. D. Chalfant, Streator  
Secretary-Treasurer ..... W. A. Pike, Ottawa  
Board of Censors: E. W. Weis, Ottawa; P. M. Burke, La Salle; W. S. Sterrett, Marseilles.  
Public Health and Legislation: W. O. Ensign, Rutland; J. W. Pettit, Ottawa; E. P. Cook, Mendota.  
Delegate to State Society ..... P. M. Burke, La Salle  
Alternate ..... J. F. Dicus, Streator

The fifty-first annual meeting of the La Salle County Medical Society was held at the Columbia Hotel, Streator, April 26, 1904.

After being entertained at dinner by the Streator Medical Society, the members adjourned to the hotel parlors where the following programme was presented and the papers thoroughly discussed by all present.

President's Address, W. S. Sterrett, Marseilles.

**Treatment of Pneumonia**, P. M. Burke, La Salle. Discussion, C. D. Chalfant, Streator, A. J. Roberts, Ottawa.

**Treatment of Eczema**, S. Hirsch, La Salle. Discussion, E. W. Weis, Ottawa, B. L. Bonar, Streator.

**Chronic Myocarditis Occurring in Old People with Especial Reference to Treatment**, E. H. Butterfield, Ottawa. Discussion, E. P. Cook, Mendota, Wm. O. Ensign, Rutland.

**Treatment of Appendicitis**, J. F. Crowley, La Salle. Discussion, P. M. Burke, La Salle, G. G. Wilcox, Seneca.

**Report of a Case of Tetanus**, T. H. Trainor, Streator. Discussion, J. A. Dicus, Streator, R. W. Bower, Sheridan.

**Necrological Report**, A. J. Roberts, Ottawa.  
**Medical Organization**, Wm. O. Ensign, Rutland. Discussion, General.

The committee appointed at the last meeting to revise the constitution and by-laws reported and their report was adopted.

The applications for membership of Drs. Theresa Jennings, C. G. Reno, H. C. Hill and Roy Sexton of Streator and R. C. Fullenweider of La Salle, were received and on report of the Board of Censors, the Secretary was authorized to cast the ballot of the Society for their election.

A committee on resolutions composed of Drs. J. F. Dicus, J. W. Pettit and P. M. Burke was



appointed to prepare resolutions of respect to the memory of our deceased brothers, Drs. J. O. Stout, J. J. Taylor and C. E. Farnham, who died during the past year.

The committee appointed to nominate officers for the ensuing year reported and the above were elected.

On motion of Dr. Ensign it was decided that the next annual meeting of the Society should be held at Rutland.

Meeting adjourned.

#### JO DAVIESS COUNTY MEDICAL SOCIETY.

##### Officers.

President ..... T. J. Stafford, Stockton  
Vice President ..... A. F. Bucknam, Warren  
Secretary-Treasurer ..... D. G. Smith, Elizabeth  
Board of Censors: John C. Hancock; W. S. Lewis,  
East Dubuque; S. G. Kreider, Lena.  
Delegate to State Meeting.....I. C. Smith, Stockton

The Jo Daviess County Medical Society met in Dr. Cybulka's offices at Warren, April 28, 1904, with the following present: Drs. Stafford, Tyrrell, Smith, I. C., Eade, Lewis, Smith, D. G., Buckingham, Keller, Phillips, Cybulka, Kreider, Hancock, Nadig, Birkbeck, Barber, with Dr. H. B. Gratiot of Dubuque, Ia., W. E. Clay, Pearl City and N. A. Kaa of Nora, as visitors.

Applications from L. Jacobs of East Dubuque and H. B. Gratiot of Dubuque, were received.

The Auditing Committee after examining the books reported everything paid and a balance of \$28.32 in the treasury.

The election of officers for the coming year resulted as above.

Dr. J. C. Hancock read a very interesting paper on **The Importance of Early Diagnosis and Treatment of Gall Stones.**

Dr. Cybulka read notes on **Personal Experience with Some Diabetic Cases.** These two subjects were discussed by the various members present.

Dr. Hancock, in behalf of the Dubuque Medical Society, invited this Society to meet with them at their annual meeting in Dubuque, June 21, 1904, also that this Society should have access to the Medical Library recently established by their Society.

Galena was selected as the next place of meeting for July 28, 1904.

#### MACOUPIN COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually the third Tuesday of April and October. Membership 35.

##### Officers.

President ..... S. A. Huffman, Chesterfield  
Vice President ..... E. A. Bleuler, Carlinville  
Secretary-Treas.....J. Palmer Matthews, Carlinville

The Macoupin County Medical Society met in regular annual meeting in the Masonic Reading room at 10:30 a. m., S. H. Corr, in the chair.

The following members were present: L. H. Corr, J. P. and J. Palmer Matthews, J. S. Collins, E. A. Bleuler and J. P. Denby of Carlinville, R. S. Cowan, G. E. Hill and W. W. VanWormer of Girard and S. A. Huffman of Chesterfield.

The treasurer's report showed \$5.80 in the treasury. Letters from A. T. Bartlett of Virden and J. E. Walton of Medora were read.

The report from the treasurer showed that 28 members of our Society were in good standing, having paid their State dues. There are 7 old members who are not affiliated, and 26 doctors in the County not affiliated in any society.

The Censors reported Girard the next place of meeting. Officers were elected as above.

The programme follows:

Essay, Dr. Thompson, subject **Hyper-Chlorhydria**, continued from last meeting.

Essay, J. E. Walton, subject, **Obstetrics.**

Essay, H. H. Simmons, continued from last meeting.

J. P. Matthews reported two cases of **Gunshot Wound of Head:** Several years ago a child was shot in center of forehead by brother. Was unconscious for a few hours. Seemed to recover consciousness and left town for St. Louis, where further record of the case was lost. Recovery took place at last report.

Case of J. P., aged 45. Sept. 5, 1902. Received gunshot wound of the frontal bone. Where the ball passed through the brain substance to the back of the skull. Splinters of bone were removed and the wound healed up under proper asepsis and drainage. The patient is now seemingly in perfect health.

In the history of the War of the Rebellion, Surgical Volume No. 1, gives a history of a number of balls lodging in the brain, with partial disability. Only two reported with complete recovery.

Dr. Cowan of Girard relates of a case ten years ago of a penetration of the temporal bone with a ball causing some deafness.

After the dinner hour a report was made of cases treated with the X-ray and radium by J. Palmer Matthews, student in the school of Dr. Hebar Roberts, St. Louis. The Cathode Ray was discovered by Dr. Rontgen of Wurzburg. It is a species of energy having the property of penetrating substances that are ordinarily opaque, and affecting an ordinary photographic plate. It is generated by passing an electric current through a highly exhausted vacuum tube, Crooks tube.

The rays are invisible and are given off in the ultra-violet region of the spectrum. Because of the shortness of the wave lengths it is invisible. It has the power of making a fluorescence on coming in contact with tungstate of Calcium smeared on a screen of cardboard.

Radium, discovered by Madam Curie in France in 1899, is a gas given off from pitch blende and unites with bromide to form a white precipitate of bromide or radium. The fluorescent light given off is of short wave length, seen in the ultra-violet region of the spectrum and is invisible. But it will produce a fluorescence on a screen of tungstate of Calcium after passing through a steel door of a safe.

Radio activity may be imported to metals and water by coming in contact with air laden with radium emanations.

This radio activity gives off a phosphorescent glow like fox-fire when in the presence of the fluorscope and like the X-Ray it will heal cancers and eczemas of the skin.

Radium does not lose weight by imparting its activity to other substances. The waters of

Hot Springs, Ark., are being investigated by the government for healing properties in radio-activity.

Two cases of eczema are convalescent and one cancer cured and another improved after repeated exposures to the X-Ray.

Dr. Collins said cases should be brought before the Society for inspection. Dr. Pitt Matthews and Dr. Corr said the old custom should be revived, which has been allowed to lapse by the neglect of the younger members.

Dr. W. W. VanWormer of Girard, read a paper on **Poisons of the Commoner Kind**. Detection and treatment. He gave a resume of standard observers in the treatment of poisoning with suicidal intent.

There is little time to prepare for the emergency cases to whom you are called at the most inopportune times.

If you do not succeed in restoring the patient to health, the family berates you and the ignorant neighbors make covert remarks about your professional skill.

A physician who has spent more time analyzing and treating poisons than any doctor in central Illinois, said: "There is nothing so fascinating and repulsive and disgusting as treating suicides by drugs. Few physicians know how to treat poisons. The habit of walking and beating the patient addicted to morphine with towels only tends to wear out the strength of the patients heart tending to produce fatal result. As many have been beaten into exhaustion as have been benefited."

These views are the antithesis of our accepted ideas regarding poisoning by morphine. Pain inflicted on the patient is the best antidote to the lethargy of morphine.

The odor of chloroform is distinctive as is also that of carbolic acid. The burns and blisters of the oral cavity is convincing proof of carbolic acid poisoning.

Morphine gives a picture of quiet sleep, difficult to arouse, and contracted pupils.

Strychnine produces convulsions that come and go with frothing at the mouth to be differentiated from epilepsy.

Chloral bromides are like morphine in their action except that they are not so dangerous. The coma is not so deep and the condition responds more readily to treatment.

Cocain Hydrochlorate is seldom used with suicidal intent. It causes exhilaration in small doses and the patient remains conscious even under large doses, but has stertorous breathing, resembling paroxysms of asthma.

Belladonna causes utter relaxation, sighing respiration, dilated pupils, clammy skin and incoherent talk.

Whiskey causes delirium tremens, and is well known. There is a mid ground between a common drunk and delirium tremens where the breath is alcoholic, skin hot to the touch, pulse from 110 to 140, mind clear with a look of dread on the face. There is usually a history of sudden stopping of drinking. Bowels inactive, and tongue furred with tender liver area. Keep the patient quiet with hyosciamine hypodermically 1-100 gr. every three hours.

**Treatment of Poisons:** Evacuate the stomach immediately with a hypodermic of apomorphine 1-10 gr. Use the stomach pump when handy. Then establish respiration and circulation. Bare the skin of the chest and dash on cold water. If this does not suffice flick with corner of cold wet towel. Then try artificial respiration as in a drowning case. A hypodermic of strychnine may be used 1-30 gr. over the heart.

The antidote of morphine is permanganate of potash. Wash out the stomach. Give apomorphine and strychnine. Flick with cold water. Use electric battery. Use artificial respiration. Keep the patient awake by making him mad. Give coffee, and when the patient is aroused give a quick cathartic.

For carbolic acid the antidote is alcohol or epsom salts.

The antidote for strychnine is morphine and chloroform to control convulsions. Cocaine has no antidote.

Chloral and Bromides, as knock-out drops are not fatal.

Simple tests: Morphine with nitric acid gives off an orange red color.

Strychnine with sulphuric acid is oxidized into a purple streak when Bichromate of potash is drawn through it. Cocain precipitated with silver nitrate which is insoluble with nitric acid. Chloroform is well known by its odor.

Belladonna is a mydriatic.

Carbolic acid gives a purple color in the presence of Ferric chloride.

Chloral heated with caustic potash gives odor of chloroform.

The paper was, on-motion, accepted as a contribution by the Society and was discussed by all members present.

Dr. L. H. Corr gave a valedictory address and spoke of a history of the Society, which she had written and was now ready to be published.

Dr. Pitt Matthews was appointed to escort the newly elected President, Dr. Huffman, to the chair.

The Society then adjourned to meet at Girard on the third Tuesday in October, 1904.

#### SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held in Springfield the second Monday of each month at 8 p. m.  
Membership 73.

##### Officers.

President ..... R. B. Griffith, Springfield  
Vice President ..... S. E. Munson, Springfield  
Secretary-Treasurer ..... C. P. Colby, Springfield  
Directors, W. O. Langdon, R. D. Berry, C. R. Spicer

The Society held its regular monthly meeting Monday evening, May 9th, in the Supervisor's room, President B. B. Griffith in the chair, and 14 members present.

Minutes of last meeting read and approved.

Bills amounting to \$4.26 read and ordered paid. Secretary was instructed to see Dr. P. L. Taylor in regard to an old bill of the Illinois



State Journal for notices printed in 1902 and 1903 and if not paid the treasurer was instructed to pay same.

President B. B. Griffith was elected as delegate to attend State Society meeting at Blooming. Dr. Kreider made a motion that if Dr. Griffith was unable to attend the meeting, he should appoint some one that could, so as our Society would be sure to be represented. Motion carried. Dr. Kreider moved that Dr. Griffith extend an invitation to the State Society to meet in Springfield next year as the guests of our County Society. After some discussion motion was carried.

President appointed Drs. A. L. Brittin, E. E. Hagler and C. S. Nelson as a committee to draw up resolutions on Dr. Kerr's death.

Dr. E. E. Hagler read a paper on **Laryngeal and Ear Tuberculosis.**

**Abstract.** Laryngists, the past twenty years, have differed on the question whether tubercular laryngitis is a primary or secondary disease. The foremost authorities first thought it a secondary affection of pulmonary tuberculosis. Latterly the consensus of opinion is that tubercular laryngitis may affect the larynx primarily. The clinical history of tuberculosis is of more importance in the establishment of a diagnosis than the finding of bacilli in the sputum. This is particularly true in the diagnosis of throat cases. The laryngist frequently has opportunity to see the throat before the disease has made dangerous progress. He can examine the throat in the first stages of the disease. In some cases the anaesthetic throat is almost a sure sign of tuberculosis. Cases were cited in illustration.

Many cases of catarrhal inflammation of the lungs begin in the larynx. Among the laity it is generally believed that catarrhal affections tend to "go down." Quacks take advantage of this belief in vaunting their nostrum. There is a particle of truth in this theory. Since catarrhal affections predispose to pulmonary affections.

The latter part of the paper was devoted to a discussion of tubercular glands of the neck, and their origin. Several cases were cited in illustration. The writer closed by calling attention to the great importance of a careful examination of the throat in every case of cough or pulmonary disease.

Dr. C. R. Spicer read a paper on **Tuberculosis of Children**, a synopsis of which follows:

The peculiar environment, special anatomy and marked susceptibility of children to diseases is so different from the same conditions occurring in adults that it merits special attention. When we think of a child born of a tuberculous mother, or fed upon milk from a tuberculous cow, or crawling about the floor and putting into its mouth toys or any particles of dirt it may find, or later when it runs the gauntlet of the infectious diseases with their depleting influences, it becomes at once apparent why a child is prone to tubercular infection.

Except pneumonia and gastro-enteritis, tuberculosis is responsible for more deaths in children under ten years of age than any other

disease. The specific cause of tuberculosis is definitely settled. The modes of entrance of the bacillus into the system are many, but some of the best authorities believe that it most frequently gains entrance through the alimentary tract, because the mortality was highest at the age when children live on milk, namely, during the first and second years of life. Holt shows that 57 per cent of children dying of tuberculosis die in the first year while 39 per cent die in the second year. Northrup of New York in 1898 read a paper before the Philadelphia Pediatric Society in which he endeavored to prove that the most common source of tubercular infection in children was by the respiratory tract. Dr. Geo. F. Still, of London, in 1899, read a paper before the British Medical Association and confirmed the claims of Northrup. He found that the number of primary lesions of the lungs was much greater than the primary lesions of the intestinal tract. Granting that Still may be right, it does not necessarily follow that those in the lungs and bronchial glands were produced by bacilli inhaled. Weigert, many years ago, pointed out that bacilli were probably carried by the lymphatics to the thoracic duct and thence to the thoracic cavity which in a way is screened by the bronchial glands, and as Still asserts is often a source of distribution to the lungs by contiguity and to the meninges via the circulation. It is the general opinion that bovine tuberculosis is very rarely if ever transmitted to the human. It therefore seems logical to conclude that the most frequent means of infection is by the respiratory tract from infectious material inhaled or put there by the patient himself. That the disease is most common during the second year of life when the child has the best opportunity for such infection, from creeping on the floor, from its habit of putting everything possible into its mouth, and by close association with parents and others who may be infected. Furthermore that they are not likely to be infected from milk from tuberculous cows. Measles, whooping cough and pneumonia are the diseases most likely to be followed by tuberculosis. The principal differences in the pathology of phthisis in children from those of adults are, first, that the primary lesions in the lungs is at their base and can often be traced to an extension from the bronchial glands which are almost always involved. The second difference is the distribution of the lesions over the lungs. Instead of finding a large consolidated area or cavity, one more often finds multiple small cheesy areas or abscesses. It is not at all uncommon to find these nodules in the liver, kidney, brain or spleen and the frequency with which the meninges are involved is interesting to note as that is often the first clinical hint as to the true nature of a chain of puzzling symptoms. The symptoms of phthisis in young children are many and varied; but they may be called into groups according to the manner in which the case begins. Namely, primary, secondary and fibroid phthisis. In the primary form the onset is insidious. The first to attract attention in the patient may be the nutrition. The appetite is apt to become capricious or even if it remains good the child may be noticed

to lose weight. The cough which may not begin for some weeks, may be dry and even after the child has begun to raise considerable sputum cause little alarm to the parents as the sputum in children under six or seven is usually swallowed. The respirations may be noticed, fairly early, to be somewhat quickened. Niemeyer noted that a sudden increase in frequency in respirations, where other signs of pneumonia are absent is usually an indication of a marked extension of a tubercular process. Later in the case, if the patient be young, there is diarrhea with much mucous and green stools. This form of phthisis usually lasts from twelve to eighteen months according to the resistance of the patient. Death is usually due to exhaustion, meningitis or pneumonia. The secondary or pneumonic form may follow a broncho-pneumonia or begin with a catarrh. The third variety may be a sequel to an unresolved lobar pneumonia or an ordinary broncho-pneumonia. In either case there is a contraction of the lung tissue with induration and thickening of the bronchial tubes resulting in their dilatation. As in adults much fetid sputum is raised and the case may become very chronic. The temperature often remains normal or nearly so. Death when it occurs is due to exhaustion, not infrequently however, these cases recover in a way, with more or less deformity of chest. The prognosis depends largely upon the type of the disease in question. The primary cases are almost always fatal sooner or later. In cases secondary to pneumonia recovery often takes place if the patient be robust. Fibroid phthisis is the slowest process and is the form most apt to recover.

The diagnosis of pulmonary phthisis in children is usually difficult and often impossible until the case is well advanced. This is due largely to the great diversity of symptoms and their failure to form a definite clinical picture. In one case there may be a marked anorexia and wasting, in another the appetite may remain good even with a temperature of 101° or 102° and no apparent wasting. The cough may come early or late or scarcely at all. In primary phthisis the general symptoms usually precede the special. There is wasting, fever and general debility and finally a cough and physical signs. In pneumonic phthisis the reverse is the case, there may be shortness of breath only, and the process well advanced before wasting is noticed. In fibroid phthisis the cough is the principal early symptom. The physical signs of phthisis in children are often puzzling and as difficult to interpret as the symptoms. Great care and repeated examinations are necessary. In making a diagnosis of phthisis in children the history and general symptoms are of most importance. The family history, exposure by contact, the fact that the illness in question follows measles, pertussis or pneumonia are of great importance. If to any of the above conditions there may be added wasting without an apparent cause, and loss of vitality, tuberculosis should be strongly suspected. The use of tuberculin is strongly advocated by some, where sputum can be obtained the bacilli can be demonstrated in

the usual manner. The treatment of phthisis in children is much the same as in adults.

A discussion of both papers followed.

Dr. Geo. N. Kreider presented a specimen of **Tuberculosis of Kidney**, also one of **Carcinoma of Hepatic Flexure of Colon** and reported a case of **Caesarian Section**. The woman less than two years ago was delivered by perforation. This time Caesarian was early advised, but she refused until she had been in labor quite a while with no progress. She finally consented to the operation and was delivered of a 9½ pound boy on 21st of April, and both patients are doing nicely.

Dr. J. N. Dixon reported a case of **Caesarian Section** at our April meeting. A primipara, aged 30 years, had been in labor more than 24 hours when he first saw her and the attending physician had endeavored in every way possible to deliver her. On Dr. Dixon's examination he found the pelvis markedly contracted and the head not engaged, and the woman nearly exhausted; operation accepted. Owing to exhaustion the patient died.

Adjourned.

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#### CAMP FOR PHTHISIS CURE TO BE OPENED AT OTTAWA.

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#### Poor Tuberculosis Patients of Chicago Will Be Given Treatment in Experiment to Secure State Hospital.

A camp for thirty tuberculosis patients from congested districts of Chicago will be opened this week at Ottawa, Ill., Dr. J. W. Pettit of that city is its founder. Residents of Ottawa have given the use of the ground free and have made subscriptions.

A number of applications for admittance have been received. Only such patients as will agree to remain there until cured will be accepted. The cost to applicants will not exceed \$18 a month. The camp will be maintained winter and summer. A large tent is to be used for a dining room, and the cooking will be done upon the premises. A dairy nearby will supply the milk and butter.

"The camp will virtually be self-supporting," said Dr. William E. Quine, president of the Illinois State Medical society. "Its object is to help poor patients. Work will be given to them if they desire it in order to help them pay their own expenses. This camp is to be modeled after similar institutions in the east, which have proved successful. We intend to make a complete report of its accomplishments during the first year, and present a bill before the legislature for the establishment of state hospitals for consumptives throughout Illinois."

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#### SALE.

Owing to the death of my husband and co-worker, Dr. Chas. J. Cooper, I will sell my practice of \$3,400 per year, also drugs and office fixtures for \$800. A fine country location. Rachel M. Cooper, M. D., Champaign Co., Penfield, Ill.



# The Illinois Medical Journal.

Special Section Containing Official Reports of the Chicago (Cook County) Medical Society and its Branches.

## OFFICERS:

R. B. PREBLE, 103 State Street.....	President
FRANK X. WALLS, 4307 Ellis Avenue. ....	Secretary
A. E. HALSTEAD, 2937 Indiana Avenue.....	Treasurer
W. A. EVANS, 103 State Street . . . . .	Chairman Medicolegal Committee
WM. HARSHA, 103 State Street . . . . .	Chairman Membership Committee

JUNE, 1904.

A regular meeting was held May 4, 1904, with the president, Dr. R. B. Preble, in the chair.

Dr. Daniel N. Eisendrath presented the following clinical cases:

### Cervical Rib.

Case 1. The first case I desire to present is one of great rarity, inasmuch as it is not frequently found during life. There have been quite a number of cases reported in which it has been found at autopsy but there are only 32 cases so far as I can find in which a cervical rib was diagnosed or described during life. The patient is a woman 51 years of age, who came to me on account of an entirely different affection, namely, an affection of the breasts, which led me to examine the neighboring lymph glands. I examined her in the supraclavicular region and was positive for a moment that we had a mass of carcinomatous glands, but upon pressing a little deeper I found, instead of a bunch of glands, what seemed to be a hard bony substance, which apparently passed back toward the spine.

As regards the origin of cervical ribs, a cervical rib is supposed to be due to an unusual development of the anterior tubercle of the transverse process of the last cervical vertebra. It can be of different lengths. In the first place, it can be rudimentary, so that it is simply a projection from the body of the vertebra; secondly, it may be an inch or so in length and be free, as in the case I show you. Thirdly, there is a form in which it is apparently connected by means of a ligament to the first rib. Fourthly, a form in which the end of the cervical rib articulates directly with the first thoracic rib. I will pass around a skiagraph which shows a cervical rib apparently two and a half inches in length, and I should judge from palpation one connected by a ligament with the first thoracic rib.

The chief points of interest in regard to cases of cervical ribs are these: The chief point of clinical interest is the relation of the subclavian artery and the relation of the brachial plexus to the rib. Many times such ribs, with abnormal pulsation of the subclavian artery, have been mistaken for aneurysms, and there have been a number of cases reported in which the brachial plexus passing between the the cervical

rib and the first thoracic rib was considerably pressed upon to such an extent as to give rise to severe neuralgic pains in the upper extremity, necessitating the removal of the rib. There have also been several cases reported in which the subclavian artery, instead of (as it frequently does in a short cervical rib) passing across the surface of the rib, passes between the thoracic rib and cervical rib, with pressure upon the subclavian vein, followed by thrombosis of the artery and of the subclavian vein which necessitates removal of the rib.

### Case of Crushing Injury of the Upper Extremity.

Case 2. Unfortunately I was not able to have the second case come here tonight in person, but I have photographs which, for practical purposes, serve to illustrate the chief points in the case. This patient was a boy, who, at the time I first saw him, was 16 years of age. He sustained an accident in one of the foundries of the American Bridge Company by having a large girder of a bridge, which was in process of transportation from one portion of the foundry to another, fall upon his left upper extremity. Three men were killed by the falling of this girder at that time. The boy was brought to the Cook County Hospital, where I operated upon him. The first impression I received from an examination of the arm was that it was a case which clearly indicated amputation. The extent of the injuries were: a fracture of the humerus to such an extent that there was an entire absence of two inches of the shaft of the humerus at its center. In addition to that, there were a large number of splinters: one or two large fragments lying free in the bone. There was extensive destruction of the soft parts. I found also a compound comminuted fracture of both bones of the forearm. Considering what a loss it would be to the boy if the upper extremity was amputated, I thought we would make an effort, at least, to save it, although it seemed hopeless. We wired the humerus, simply using a portion of the cortex of the bone, which I thought would not hold. The upper fragment was drilled, and by means of silver wire it was united with the main portion of the shaft of the lower fragment. After taking away a number of pieces of the bones of the forearm, I found that there was extensive destruction of the soft parts, such as would ordin-

arily indicate an amputation—destruction of the tendons and muscles, and, so far as I could determine, practically all of the arteries and nerves, and only a small strip of skin, scarcely an inch and a half in width, being left, everything else being torn away. We wired both bones of the forearm. The result which I was able to get after the injury was a most remarkable restoration of the arm. We found we were able to save the arm below the elbow joint, but had debated for a time whether we would not have to amputate the forearm some three or four weeks after the original injury on account of sloughing of the soft parts; but through care on the part of the house surgeons, Dr. Cubbins and Lespinasse, we were able to save the entire upper extremity. A skiagraph shows the wire in the humerus still in place; and although there was two inches of shortening, we secured an excellent result. The forearm does not show traces of fracture having been present, except in the radius where there is non-union, and one bone is longer than the other, on account of rapid growth of the epiphysis.

The photographs, which I will pass around, with this skiagraph show very well how, by securing primary union in this extensive injury, at least in the main portion of the humerus, we were able to save the entire upper extremity. The boy now is able to raise his arm in all directions and to lift light weights. I regard it as a far better arm than we would have secured with a hook.

The case illustrates what one can accomplish by cleaning up these cases thoroughly in the first instance, and taking out, for instance, in a case of compound fracture the ends of the bone, cutting them off, and wiring them, although secondarily the wires came away. In this way we can probably save many of those cases in which amputation would be indicated.

#### Bilateral Inguinal and Femoral Herniae.

Case 3. The third case I wish to show is interesting to surgeons, on account of its comparative rarity. This gentleman is 62 years of age, and was sent to me recently on account of an unusual combination of herniae. He has, as this photograph shows, and as the patient himself, an unusual combination of femoral and inguinal on the opposite side. The femoral hernia is of some interest, on account of the fact that it is irreducible and has given rise to symptoms of strangulation several times.

#### Crushing Injury of the Abdominal Wall.

Case 4. The next case of hernia is one of unusual interest owing to the fact that it was a case which belongs to the class of what are known as subcutaneous injuries of the abdominal wall and viscera.

This man was admitted to my service at the Cook County Hospital almost a year ago, June 1, 1903. The old type of street-car afforded considerable space between cars, but in the newer type of street cars the car projects so far over the edge of the track (I am referring now to the new 60-foot cars) that it only leaves a space of about nine or ten inches, so that a great many people, in order to protect themselves against injury, will get between the cars. This man

and his companion tried to save themselves at Polk and Clark streets in 1903, by getting between the cars. His companion was brought to the hospital dead, while he was suffering greatly from shock. Credit for the diagnosis in this case belongs to my house surgeon at that time, Dr. Snyder, as he was the first to make a diagnosis of traumatic hernia. The condition in which I found the man that evening was this: just below the crest of the ilium there was a tumor about the size of two fists, which was very soft, tympanitic on percussion, and which could be reduced, with a gurgle like a typical hernia. When it was reduced one could easily insert the tips of the four fingers into the gap. Dr. Snyder proved to be correct. I thought at in the abdominal wall. The diagnosis made by first it was only a hernia through the triangle of Petit, but in operating the next day we found the following condition: the skin was perfect, with the exception of a few hematomata. After making an incision and extending it to the middle of Poupart's ligament, we found the following condition of affairs: Every single one of the abdominal muscles, the external and internal oblique, the transversalis fascia, and peritoneum were torn off from the crest of the ilium back as far as the erector spinae and down as far along Poupart's ligament as the internal abdominal ring. There was loose omentum lying in the abdominal cavity, and there was contusion of the cecum. I was at a loss to know how to repair this large defect exactly. The only way I could think of to repairing it was to drill a number of holes into the chest of the ilium, and either with silver wire or with kangaroo tendon bring down the muscle to the crest of the ilium; but I decided this would take too long, probably an hour and a half, and the patient was not in a condition to warrant it. I therefore made use of the gluteal fascia, taking kangaroo tendon sutures, bringing them through in mattress fashion, catching a big bunch of these muscles, bring them down, and suturing them to the fascia. In this way I placed fourteen kangaroo tendon sutures, which extended from the middle of Poupart's ligament back to the erector spinae. Fortunately, we were able to get primary union. Patient had, in addition to the injuries mentioned, a pneumothorax, with fracture of the fifth and sixth ribs and a fracture of the clavicle.

He has been at work for the last few months. After the injury he developed something of considerable interest to surgeons and concerning which there is considerable question at the present time, not so much in this country as in Europe, namely, the origin of inguinal hernia after an injury, whether a hernia can originate after an injury or not. In this case, where there was a tremendous crushing force, dilating the ring, squeezing the peritoneum, there is a possibility that the hernia occurred in that way. The picture shows where the hernia was. It is on the left side and of the inguinal type.

#### Fractures of the Os Calcis.

Case 5. I wish to pass around two skiagraphs. Unfortunately, I was unable to get one of the patients to come here tonight, and the other patient has left my charge. For this skiagraph



graph I am indebted to Dr. McLeod, of South Chicago. The findings at the operation in my case were identical with those observed in the case of Dr. McLeod. My patient was a woman, fifty-five years of age, who had been wearing the fashionable French heel. As she was stepping from her carriage on to the stepping-stone, another horse ran into her horse, and threw her backwards. Her foot was caught as if in a vise by the heel fitting exactly into a groove. The heel was torn off from the shoe. She undoubtedly fell forward, and then backward. In Dr. McLeod's case the woman fell with the heel going through a hole in the sidewalk. The skiagraph shows what has been scarcely described, namely, a fracture of the os calcis by indirect violence. The os calcis was torn in two by the force of the fall; the tendo-Achilles pulled the upper portion of the os calcis in the direction I show you, and the lower portion remained attached to the astragalus and other bones of the heel. This skiagraph is exceptionally clear. At the time of my original examination all I could find was a little projection which threatened discoloration of the skin, and would have increased through the skin within a few hours, and that was the reason we had to hurry to operate on her. We had no X-Ray taken at the time. We found at the time of the operation that the little short fragment was carried upward by the tendo-Achilles, and the operation in brief consisted simply in suturing the parts together with kangaroo tendon, and suturing the tendo-Achilles, which was torn loose, with kangaroo tendon.

Dr. J. B. Sachs read a paper on Tuberculosis in the Jewish Districts of Chicago. (This paper has not been received.)

#### Discussion on Paper of Dr. Sachs.

**Dr. Robert H. Babcock:** This very interesting paper represents a large amount of work on the part of Dr. Sachs, and I personally feel indebted to him for presenting views which I consider of positive value. The paper is so rich in suggestions, that it is practically impossible to know where to begin or what comment to make upon any of them. I wish to say, however, that I am specially impressed with that portion of the paper in which the doctor says that the so-called immunity on part of the Jews does not obtain, and that, in fact, the statistics which have been previously collated, going to show a lessened prevalence and mortality from this disease, are erroneous. I have personally seen a good deal of tuberculosis in a consultation way among Jews in Chicago, and it has always been impressed upon me that this disease was widely prevalent and very fatal among these people. I am glad, therefore, that the doctor emphasizes this point and brings it out so clearly as he does. I do not see how it can well be otherwise.

Tuberculosis is a house disease. It is a disease born of defective hygiene, and the poor Jews of this city are compelled to live in such a manner that it is only a wonder not more of them are affected with this disease.

Another factor in the causation of tuberculosis among the Jews is to be found, I believe, in their very commendable and well recognized

economical ideas. The Jews make it a rule, I believe, whenever possible, to live within their income, and to this end they must and do of necessity curtail their needs as regards sufficient food. Moreover, their diet, is not, it seems to me, calculated to combat disease by increasing resistance, but rather to lessen it.

With reference to the doctor's recommendations, I would simply suggest that he revert them, and that instead of placing at the head of his recommendations cleaning streets, he place at the top improvement in the tenement houses or the lodging for the poor Jews of the city. Until the landlords of this city can be aroused to a realization of the deplorable state of the dwellings in which the poor of the west side live, we cannot expect any improvement in their social condition.

**Dr. Arnold C. Klebs:** I was very much interested in Dr. Sachs' paper, and I think he is showing us the way for investigations which are of the greatest importance in making us familiar with these social conditions which increase the prevalence of this disease.

I was astonished to hear some of the points he emphasized. My impression was the same as that of most observers in matters social and medical, that the mortality from tuberculosis among the Jews is relatively very small. I do not know how far Dr. Sachs has a right to presume that tuberculosis among the Jews is especially fatal, and that the disease is very prevalent. We have the statistics from New York, which were lately taken, which show just the contrary point of view. Properly speaking the statistics of Jews have not been taken anywhere, we have statistics of nationalities, but not of Jews as a race. Those statistics do not exist anywhere, so far as I know. The statistics of nationalities which embrace the Jews in New York. Russians, Hungarians and Poles, we find at the bottom of the list as to mortality. We have the highest rate of mortality among the negroes, 587 per 100,000. Among the chiefly Jewish nationalities, the mortality is 131 per 100,000 for the Russians, 113 for the Hungarians, and 67 for the Poles, which is the lowest on the whole list, the Irish are 428 per 100,000, the Germans 205, and the Italians 149.

An interesting fact about this matter is that the Jews live in the midst of the worst hygienic conditions and still the mortality from tuberculosis is comparatively low. It is true, that the Jews work in sweat shops and under worst conditions hygienically, from eight to nine hours a day. The balance of the time 15 to 16 hours they spend in their homes. It is notorious that the Jewish home is probably hygienically the best home of any one race. In following their religious commandments they pay considerable and regular attention to the cleanliness of the house, to bathing, etc. They take special care of their food. In a recent article I held that Moses was the great social hygienist. He gave wise directions for promoting domestic as well as individual hygiene, the results of which now show in the relative immunity of his race to tuberculosis.

There is one more point which I desire to emphasize, and which has been repeatedly emphasized by observers abroad and in this country, namely, that the rapid course of consumption is rarely observed in Jewish people. They have a long drawn out course of the disease. One very rarely sees the rapid type of "quick consumption" among the Jews. I have myself had a number of private cases of consumption among the Jews, and I have made the same observation. I have found extensive lesions in Jewish people, so extensive that I considered the prognosis very grave, yet they lived for an astonishingly long time. The explanation which I have given, whenever this subject of racial predisposition came up, was that probably the Jews were used to and had adapted themselves to the indoor life much longer than any one of the other civilized races; at a time when we were barbarians, so to speak, the Jews were used to an indoor civilization, and they have adapted themselves by measures of specific cleanliness and measures of moderation to which Dr. Babcock has alluded. Alcoholism is almost unknown among the Jews. There are no such excesses among them, which while with us, are unfortunately only too frequent. On the other hand, the fact is that the people or races that are not used to indoor life, when taken into the atmosphere of our indoor dwellings, are decimated by tuberculosis. For instance, the Negroes, the Indians, and the Bedouins are typical examples of this. They do not have tuberculosis as long as they live outdoors and lead a wild life, but as soon as they are taken indoors, they are decimated by disease. They have not acquired the same immunity against tuberculosis that the Jew has, who has had a longer time through the process of evolution to adapt himself to indoor existence, which we now know is most responsible for, or must be considered as the most important predisposing factor of tuberculosis.

Dr. Sachs spoke about the disinfection of houses as being a most important measure for the prevention of tuberculosis. I agree with him that disinfection is very important, and I wish to say in this connection that the health department is making every effort and giving us every assistance in this respect. The Committee on Tuberculosis has given them a great number of cases of tuberculosis in certain districts. There is no ordinance providing for disinfection in such cases, but the health department has promised to carry it out in every case of tuberculosis we give them. However, we must not be satisfied with disinfection alone. I would much rather have a house clean than disinfected. If we have good cleaners, who will clean a house from top to bottom, scrub and wash, boil and destroy furniture which is infected, we make a greater step forward than by the mere perfuming of the dwellings with formaldehyde.

**Dr. Robert H. Babcock:** While the Jews, as has been stated, do not present as great a prevalence for tuberculosis as some other races. I nevertheless believe that Dr. Sachs has shown that tuberculosis is more prevalent among the Jews than is generally believed, and he is correct, from my observations in this city.

I am very much interested in Dr. Klebs' explanation of why the Jews present a less prevalence to this disease than other races; but I must say that personally, with all due respect to my friend, Klebs, I attach much more importance to the fact that the Jews, as a people, are more orderly and less given to dissipation than I do to the fact that they have become innured to indoor life. Dr. Klebs admitted that alcoholism was nothing like so prevalent among the Jews as among the Irish, Negroes, and others, who are notoriously smitten by tuberculosis, and I believe that the reason the native races, as the Indians, become so markedly tuberculous when they adopt the ways of civilized man, is not because they live in doors so much, as because they adopt the vicious habits of the civilized, and it is these vicious habits which offset the beneficial effect of any outdoor life they had previously been accustomed to.

**Dr. I. A. Abt:** I enjoyed Dr. Sachs' excellent paper very much. I should like to say a word about one of the questions that came up in the discussion, namely, as to whether or not Jews are more or less susceptible to tuberculosis. I think Dr. Sachs in his paper pointed out clearly that there was a plague spot on the West Side, and that men, women and children were huddled in unhygienic homes, living under the most difficult conditions possible. They are living in homes that are infected constantly, and they are simply contracting tuberculosis in that way. Personally, I do not believe that the Jew possesses any immunity against tuberculosis, neither do I believe that he possesses any predisposition to it. It is simply a question of contact with infection, and those who are exposed fall victims to the disease.

So far as tuberculosis among children is concerned, I believe a good many of the children who are infected with the disease in the region which Dr. Sachs has described are brought to the Michael Reese Hospital. I see most of these infants and children at that institution the majority of them from acute miliary tuberculosis, the meningeal manifestation is simply a terminal condition of the acute miliary tuberculosis.

**Dr. E. A. Fischkin:** Tuberculosis, as a social disease, is in all probability spread by the same factors which facilitate the propagation of its pathogenic germ as other social diseases, for instance, syphilis.

About two years ago I published the report of my service in the Skin and Venereal Department of the United Hebrew Charities Dispensary, which I had been conducting for some eight years, and which lies in the district described by Dr. Sachs. To my own surprise, I found among some three thousand cases of skin diseases only twenty cases of syphilis, of which only two cases at ages over 40. Still I do not think that anybody would draw the conclusion that the poor Jew is not susceptible to syphilitic infection. I believe the same can be said in regard to tuberculosis. I believe that tuberculosis may have partly the same conditions for its spread as the bacillus of syphilis.

It has been shown tonight that poverty and especially the conditions which compel these people to live in crowded districts, are the most



important factors in the spread of tuberculosis, and one could add that the natural products of poverty, vice and crime, are of greater importance in the spread of the disease than poverty itself. Alcohol is the greatest of them. It certainly makes the disease more destructive. The worst cases of syphilis I have ever seen were among alcoholics, and I should suppose that alcoholism aggravates tuberculosis in the same way as it does syphilis.

It has been said tonight that the Jewish race has some conditions in its favor tending to stronger racial resistance. If such conditions exist, they are due to the lesser amount of vice and crime among the Jews. For my own part, I think that Dr. Klebs is right in emphasizing the fact that alcoholism as a factor in spreading disease among Jews is a comparatively unimportant one. I have never seen alcoholism among the poor Jews in my department of skin diseases.

I was very glad to hear Dr. Klebs emphasize the hygienic conditions of the homes of the Jews, and also their religious prohibitions which may be saving factors in protecting them against this disease. I wish the rich Jews who contribute so much towards the charities could be given to understand this and what men like Dr. Klebs and other leading physicians say with reference to religious conditions of the Jews.

There is unfortunately a tendency to counteract the religious prohibitions among the poor Jews, and to compel the sick inmates of these institutions to break their dietary laws. This is a mistake. In the hospital, and in the sanitariums, they ought not to infringe upon religious views. The poor Jew should not be compelled to give up his religious customs. They are the best guides of morality. They have been the forces which have saved him from extermination, through centuries of persecution and enforced social and hygienic misery.

**Dr. Aria Louis Dardiger:** The ground has been so thoroughly covered by Dr. Sachs in his paper that there is very little left to be said. However, there is one point that occurred to me that might be a valuable addition to the discussion, and that is, that the Jews as a whole are not under-fed, but rather inclined to be over-fed, and will always make an effort to have good substantial food.

We know that the treatment of tuberculosis mainly consists in proper hygiene and good food, and that is one of the points I particularly wish to emphasize.

Another point is this: Whenever there is anything wrong with the poor Jew, he is more apt to consult a physician sooner than a Gentile. Furthermore, we must also take into consideration, without being personal, that the Jews are not believers in Christian Science, or any other ism that comes along. They will follow out the instructions of a physician to the letter, and the latter will have full opportunity to try his various remedies, as well as climate, as has been mentioned by some of the speakers. They go to seek pure air, and wherever they can find a place that will benefit them, they are likely to go.

With reference to resistance, it is true, that when we prescribe medicine, we do not want whiskey, or other stimulants, mixed up with it. We want to distinguish our results, and that is one point we shall find in our favor in prescribing medicine for the Jewish people. As a whole, I do not believe we find among them as many who use that beverage (whiskey) as among other nationalities. Of course, the Jews are not entirely exempt from indulgence in liquor.

With reference to heredity, it has been suggested that the Jews are more accustomed to indoor life than the people of any other nationality, and hence less susceptible to tuberculosis. As to that, I can hardly see why that should render them more immune to the disease. I should rather say the reverse. In their earlier days from the time of the Babylonians and Egyptians the Jews, as we well know lead a pastoral life. They roamed in the wilderness, and they filled their lungs with pure air before there were factories emitting smoke and modern machinery to give them employment indoors. This we shall find to be true by carefully reading history. The Jews are not fond of farming. It is true, but they are found in every other industry. So if there is anything at all in heredity, that would seem a better explanation than to say that their superior resistance is due to their habit of living, indoors.

Lastly, I wish to say, that we medical men ought to take a little more interest in politics and look after certain politicians. We are doing a grand work, it is true, by standing together as a body, but we should try and influence some of our eminently capable professional medical men to take a hand in actual politics and give us a better administration, so that we may have cleaner streets and better hygiene for those people who are not educated and do not understand the dangers of the conditions that confront us.

**Dr. Alice Hamilton:** I did not expect to be called upon to say anything on this subject. I am a little surprised at the results of these investigations. The most significant thing in connection with the figures presented by Dr. Sachs seems to me to be the small number of Jews who die at a time when most people do die of tuberculosis, that is, between the ages of fifteen and fifty. I do not remember the exact figures he gave, but if I remember rightly, the mortality was very low.

With reference to what was said regarding the hygienic conditions among the Jews, they are unusually good, with the exception of the places in which they work. These places are even more crowded than those in which other nationalities work. They are crowded together in small factories, and they spend a larger part of their time in them; their hours are long, and the poor conditions in that respect go far to counteract the good hygienic conditions, so far as schools go, tenements, absence of alcoholism, etc.

A regular meeting was held May 11, 1904.

#### Case of Thoracoplasty.

**Dr. Emil Ries:** Mr. President.—The first patient I wish to present is a young man, 22 years of age, upon whom I performed thoraco-

plasty. He was taken sick with acute pneumonia at the age of seventeen years. He was sick several months, then had three abscesses, two of which opened in the sixth and seventh intercostal spaces. A third abscess opened later on in the second intercostal space. These abscesses continued to discharge pus freely, although the upper opening would close at times, and the patient had to wear a dressing constantly, which was always soaked with pus. He lost flesh; he became pale. In the course of these five years considerable curvature of the spine took place, so that the patient walked stooping over to the left side. This curvature straightened out to a certain extent, but has not disappeared entirely. He came to me in December of last year, when the following conditions presented themselves: We found a young man, who, although 22 years of age, did not look older than a boy of seventeen. In other words, his development had stopped from the time of the onset of his disease until I saw him. He had a subfebrile temperature; pulse 96; urine normal; slight edema around the ankles; varicose veins on the legs. His abdominal organs were normal. The whole disturbance was located in the chest.

We found considerable enlargement of the fingers, the so-called clubbed fingers, which were a little bluish, and which you can see yet to a certain extent, but they are not now as pronounced as they were then. His left side was somewhat flat in comparison with the right. Over the left shoulder he presented bluish varicose veins. He had an opening in the second intercostal space from which there was a discharge of a yellow, foul-smelling pus. There was an opening in the seventh, and another in the sixth intercostal spaces, which appear higher up now on account of the operation. On the left side there was complete dullness, and absence of respiratory sounds. The heart beat was on the right side extending as far as the right mammillary line. The right lung normal. It was evident we had to deal with empyema. From the acute onset of the disease, and from the absolutely intact condition of the right lung we concluded it was not a tubercular condition. I proposed extensive resection of the ribs to this young man. Operation had been proposed before I saw him. The blame is entirely on him, and not on his physicians. The physicians advised him to be operated upon repeatedly. Finally, he consented to operation. I resected the ribs from the ninth up to the second. The ribs were removed forward to the cartilage, and were twisted off at the cartilage. Posteriorly, they were removed, with the exception of short pieces which were left as a support, and the ends of which you can feel at the back. As soon as we reached the thoracic cavity an enormous amount of foul-smelling pus escaped. We encountered some difficulties in the resection because the pleura was thickened to an enormous extent. In this bottle I have some pieces of pleura I removed, and which are as thick as a finger. The pleura was removed with the ribs and intercostal muscles, so that in front nothing but a flap of soft tissue was left which collapsed easily and could be readily pressed down into the remaining chest cavity.

The left lung could not be seen. I determined to do decortication, in order to give the left lung a chance to enlarge again, and I made an incision through the thickened visceral pleura at the place where I suspected I could reach the lung, dissected down to a certain extent, and came down upon the aorta. I did not dissect any farther, but left the lung alone. The soft parts were then pressed in against the visceral pleura and the remnants of the costal pleura without any drainage. In most textbooks you will find the advice is given to drain these cases. It is bad advice. Don't do it. As soon as you begin to drain you make a new fistula. You must attempt to get primary union. With a granulating surface on top of a thick pleura like this, it did not look very promising for primary union, but you can create a better condition for primary union by curetting the whole pleural surface. This we did in this case. This curetting has to be done with care, because, if you curette deeply and extensively, you may get very close to the nerves, where they leave the spinal canal, and open their lymph sheaths and get a rapid meningitis, from which the patient may die. Occasionally deaths occur in this way after these operations. We had no untoward symptoms, and after I had pushed in the soft parts I found I could put them into very good approximation, so that no dead space was left. After I had pressed in the soft parts, I had an open space extending from the end of the flap of soft parts to the ninth rib, where I began my resection. Here the pleura diaphragmatica was exposed, with no tissue to cover it at the time. I was therefore satisfied in leaving this space open for granulation for some time. At the end of the operation, which lasted eighty minutes, patient was not in very good condition, and we gave him intravenous transfusion of salt solution, and he recovered very nicely. He was able to sit up the day after the operation, and he could breathe much better sitting up than lying down. The highest temperature on the day of the operation was 102.6°; the next day it was 100°. After that the temperature did not go over 100°, until in January, when he had an attack of bronchitis, and then the temperature rose one day to 101.8°. The temperature then dropped again. After we had allowed the pleura over the diaphragm to granulate for some little time, I decided to cover the surface. Therefore, under local anesthesia I undermined the surrounding skin and brought the edges together. A radial incision was made for the purpose of detaching the skin and getting more skin with which to cover the raw surfaces. I succeeded in covering the raw surfaces almost completely. I subsequently did another plastic operation under local anesthesia, and took a flap from the skin of the back; I dissected it up and turned it over the diaphragm and covered it. The wound is now absolutely dry.

The young man has gained twenty-four pounds since the operation. As you see, he does not look pale now. He has gained in strength rapidly and is beginning to develop into a young man. His respiration is not labored. He can walk very well and works



in the garden. He has no palpitation of the heart. His appetite is excellent, and bodily condition very good.

In these cases of empyema we are cautioned to look for amyloid degeneration of the internal organs. His urine has been examined, also his organs, in order to detect the presence or absence of amyloid degeneration, but we have not been able to find any indications of it.

I will ask the young man to walk around, so that you can look at him. I will also pass around an X-Ray picture, which shows the extent to which the ribs were resected.

The case is further interesting on account of a pathological dislocation of the clavicle. The right clavicle is dislocated upwards, and the left inwards.

There have only been five or six cases of pathological dislocation of the clavicle reported, and this is another case of this interesting condition. The dislocation of the clavicle is the consequence of the flattening of the thorax on the left side, due to the chronic empyema.

#### After-Treatment of Laparotomy.

Case 2. I intended to show a case illustrating the after-treatment of laparotomy, but the patient has disappointed me. However, I wish to make a few remarks on this subject. Some of you may know that I have changed the preparation and after-treatment of my laparotomy cases very materially in comparison with what most other surgeons do and what used to be done years ago, in that I have treated these cases in an ambulatory way. These patients are allowed to get up and walk around, eat and drink, shortly after the operation, and they seem to get along very well. Dr. Hardon and Dr. Bayard Holmes have reported similar cases recently as bearing upon the after-treatment of cases of appendicitis. It does not make any difference whether a small or large incision is made, what the operation was inside the abdomen, I allow the patients to get up just the same. I have had no untoward results, and have had no reason the regret this after-treatment. The patients like it because their stay in the hospital is very much shortened. Instead of remaining there for three or four weeks, they can go home in two weeks or less. They go home, walking well, not stooping over. Those were patients in whose cases the abdomen had been sutured completely.

I hesitated for some time whether to do likewise with those cases which I had packed, those in which we put in a Mikulicz pack after evacuating an appendiceal abscess, or after the removal of the gall-bladder with abscess, and so on. I was doubtful whether I had better let those cases get up and about or not. For several years now I have used the same after-treatment in those cases that I pack, and I can report to you that if you do it, healing is not only just as good, but the patients are better off than if they are lying down. Healing takes place more rapidly. If you have a large cavity in the abdomen which you feel that you should pack, or if you make a large cavity by putting in a pack, it takes that cavity weeks to close, if the patient is kept on his back, particularly where there is

an inflammatory mass forming the wall of the cavity, as in an appendiceal abscess. If you let the patient get up, the bowels come down from all sides, and clear out the contents of the cavity. They push towards the point of least resistance, which is the opening in the abdominal cavity, and the cavity thereby is closed and compressed much more rapidly than it would be if you made the patient keep quiet or lie still.

I had one interesting experience with a woman upon whom I operated four weeks ago. She was a very fat woman, and had a large appendiceal abscess, which was shut off from the peritoneal cavity by adhesions between the small intestine and the colon ascendens. When I cut down into the peritoneal cavity, it was opened before I reached the abscess. Before reaching the abscess I packed the free cavity and then opened into the abscess which was about eight inches below the skin surface. I determined to treat this woman after the operation the same as all others. It was not two weeks before everything came together except the fat and skin. It is now four weeks since the operation, and there is nothing but a little strip of granulation in the skin.

It is a great saving of time to carry out this after-treatment when we have to deal with such large abscesses, instead of keeping patients in bed four weeks for such large abscess cavities to heal up. This is only an additional note in the treatment of after-treatment of laparotomies.

#### Goitre.

Case 3. I have a goitre case to report on which I operated the day before yesterday. The goitre is interesting because it is a little larger than what we usually see in Chicago. We do not see such large goitres here as in European countries. There is nothing particularly interesting about the operation. I followed Doyen's procedure in this case. It is a colloid goitre, with various cysts.

#### Specimens of Gall-Bladders.

Case 4. I have here a number of gall-bladders that are interesting. A few years ago I described a condition in the gall-bladder where the ducts of the glands penetrated the muscular coat and appeared outside the muscular coat, and at that time I drew the inference that such a condition of the gall bladder would do away with the usefulness of Mayo's operation of peeling out the mucous membrane, instead of removing the whole gall-bladder. If anybody peels out the mucous membrane of the gall-bladder, he leaves the ends of the glands outside in the wall of the gall-bladder, which he leaves behind, and these glands may lead to the formation of retention cysts, possibly at least. I have followed up the subject, and you see here seven micro-scopic specimens representing six different gall-bladders, with these glands in every one. Since I have examined these cases further, I find there is a good deal more in these apparent gland ducts than I thought in the beginning. They go down through the muscular coat following the blood vessels, because these blood vessels have spaces surrounding them, where the muscular tissue is not so closely woven as

we find it in other parts of the gall-bladder. Often we have nothing but a simple glandular duct. But pretty soon I found that there was often more than a simple glandular duct round or oblong on the cross-section. I found that, instead of the simple duct, there was a cleft, a more extensive opening, and that this cleft on cross-section presented a different aspect. It presented itself in a long oval or stellate shape. In other words, we have a diverticulum of the gall-bladder invested with mucous membrane lining, with epithelium penetrating the muscular coat, and appearing not only outside the muscular coat, in the subserosa, but in the serosa itself.

I have brought three perforated gall-bladders upon which I operated. In one there is a perforation forming a fistula between the gall-bladder and duodenum. You can see some of these diverticula under the microscope. This specimen is a small, shriveled-up gall-bladder, with chronic thickening of its wall, which contained a number of small gall-stones. The woman had passed a stone the size of a hazelnut and had never been jaundiced. If she had passed a stone the size of a hazelnut from the common duct, the probability is she would have been jaundiced, while the stone passed through the common duct.

The absence of jaundice and the presence of the fistula indicates that the stone ulcerated through into the duodenum.

I have another case which I operated on a week ago today. This is a large gall-bladder. It contained a stone the size of a pigeon's egg. The gall-bladder contained, besides the stone, pus. There was an abscess between the gall-bladder and stomach; likewise a communication between the gall-bladder and stomach, a fistula. The stomach was adherent not only to the gall-bladder, but to the liver, and the omentum was adherent to the liver. The colon was adherent to the gall-bladder. It was a complicated case, and the operation consumed approximately one hour and a half.

You will notice in this gall-bladder that the tissue in the wall that looks a little different from the other tissue, is due to an abscess which was filled with green-looking pus.

This woman I saw for the first time a year ago, during the first attack she had. I advised operation, but she would not consent to it. Eight weeks ago she had a second attack, three weeks ago a third one. She was slightly jaundiced, when she came in. We found a very large gall stone. I have not examined the gall bladder yet to see whether the fistula from the gall bladder to the stomach is due to such a diverticulum or not. The gall bladder, where the stone is located, was surrounded by adhesions and pus. But you will see the actual seat of the perforation under the microscope in a third case, where you can observe the diverticulum from the gall bladder going down into the muscularis, with a thin bar of scar tissue showing where perforation had taken place into the abdominal cavity. Two gall stones in the peritoneal cavity were surrounded by pus and adhesions forming a small abscess on the

outside of the gall bladder. You will see chips of gall stones and cholesterol crystals surrounded by foreign body giant cells.

A fourth gall bladder was taken out yesterday and found to be chronically thickened. The entire operation took thirty-five minutes. Forty gall stones were found in the gall bladder. It was easy because there were few adhesions.

The patient who had this abscess between the stomach and liver is also sitting up. She has been sitting up since the first day after operation; has been feeling comfortable, and her pulse has not been over ninety since the operation.

I bring out this matter of diverticula in these cases because it is something entirely new.

Dr. F. S. Churchill read a paper on **Leukemia in Children**.

Dr. Joseph L. Miller read a paper on **Cyto-Diagnosis** with report of cases. Papers not received but the discussion follows:

**Dr. James B. Herrick:** The case as described by Dr. Churchill is typical of acute lymphatic leukemia, and while he modestly stated that his paper added nothing to the subject, I think a carefully studied case like this is a distinct contribution to our knowledge of a disease that is relatively rare.

It has been my fortune to see some six or eight cases of acute lymphatic leukemia, but only one of them in a child. If it is true, as Dr. Churchill tells us, that hemorrhage is uncommon in acute lymphatic leukemia in children, certainly there is one point of differentiation between the disease as it occurs in children and in adults, because petechiae are very common in acute lymphatic leukemia in adults.

I would take exception to one statement Dr. Churchill made, namely, that invariably where there is a secondary infection in acute lymphatic leukemia there is a marked fall in the leucocytes. I have seen one case in which I believe the exception to that rule was true, in which with a distinct streptococcus infection there was no fall in the leucocytes.

There is a group of cases not very frequently referred to that resembles almost perfectly acute lymphatic leukemia, with the exception that the glands are not greatly enlarged, and that there is no increase to speak of in the lymphocytes. That is a form of acute, rapidly progressive, and I believe invariably fatal, anemia—due to a septicemia, possibly more strictly a toxemia in some cases. I have seen three such cases as this. If you were to put the patient with the severe anemia and the one with a leukemia side by side, you would say from the clinical history, from the examination of the patients, the general appearance, from the course of the temperature, from the petechiae, the bleeding gums, etc., as also from the blood examination, except in so far as an actual increase in the leucocytes is concerned—that the cases are absolutely identical, except that in one the lymphatic glands are enlarged, while in the other they are not. These cases of rapidly fatal anemia give, I believe, as a rule, a distinct history of infection; at least, the three I have seen gave such a history. One



had a distinct history of initial tonsillar abscess. In a second case a solitary tuberculous ulcer was found in the intestine post mortem, with a colon bacillus abscess in the kidney, and in a third a criminal abortion was followed by sepsis and the anemia.

Some one from Leube's clinic described a few years ago such a case of anemia in a child. He called attention to the fact that the only point of differentiation between lymphatic leukemia was that the lymph glands are not enlarged, and the lymphocytes only slightly relatively increased. It is well to keep this group of cases in mind, and while we have as yet no etiologic or pathologic differentiation to make between these two diseases, it is to be hoped, by studying such cases carefully, we may yet be able to have some clearer clinical picture and arrive at a more definite notion as to the etiology.

**Dr. Frank S. Churchill:** The very interesting paper of Dr. Miller reminds me of a case which I saw last winter in consultation with Dr. Cheney, a case of tubercular meningitis in a four year old child, where the first lumbar puncture was made about three weeks before death, but failed to show any tubercle bacilli. There was a large amount or percentage of leucocytes however. A second lumbar puncture, made a few days later, showed the presence of the tubercle bacillus, and at the autopsy a characteristic tubercular meningitis was found. A further interesting point about the case was that it was the only focus of tuberculosis in the body.

**Dr. Joseph L. Miller:** I wish to emphasize the point made by Dr. Herrick with regard to the frequency of finding hemorrhages or petechiae in these cases of acute leukemia in adults; and, furthermore, the frequency of ulcerative processes, especially in the mouth.

A few years ago Turck in Neusser's clinic, had never seen a case clinically of acute lymphatic leukemia, but he had seen several cases at autopsy. He stated that these cases usually came to the surgical wards on account of some suppurative process in the mouth; that they went along, were not diagnosed, and were recognized finally at the autopsy table; that the hemorrhage into the mucous membrane of the mouth, with the heat and moisture and secondary infection which took place, leads early to some ulceration in the mucous membrane of the mouth, and first attracts the attention of the patient in the absence of any marked lymphatic enlargement, leading the clinician to overlook the possibility, as he thinks, of a leukemia.

**Dr. James B. Herrick:** I merely wish to say that of the few cytologic examinations I have made of fluids in the chest, I have found the presence of a large number of lymphocytes, ninety to ninety-five per cent, of some help in the diagnosis of tuberculosis. Yet I feel that Dr. Miller is right when he states that we must interpret these findings with considerable caution, and only in the light of findings in other parts of the body.

**Dr. Churchill:** It is just before death that there is often a fall in the leucocytes. To what it is due apparently is not exactly clear. It may have been due to the action of the streptococcus in my own case. In Dr. Herrick's case an examination just before death might have shown a white drop.

All of the remarks which have been made simply emphasize one of the points which I tried to bring out in my paper, namely, the absolute importance of making a differential count of the blood in these anemic cases, especially in children. If I had made a differential count on the first day of September, at the first examination, I should have detected the condition earlier than I did. In the class of cases cited by Dr. Herrick, it is often the only way to clinch the diagnosis.

**Dr. Robert B. Preble:** I might make a statement in regard to the form in which these cases of acute leukemia sometimes present themselves. The first case I saw some years ago presented itself under the clinical picture of scurvy, which does not differ essentially from the condition described by both Drs. Herrick and Miller, where hemorrhages, with anemia, constitute the main phenomena. This patient was under observation for a short space of time; a diagnosis of scurvy was made, and the patient was sent to the dead-house with that diagnosis, but before an autopsy was made, blood examinations were completed, which enabled a change in the diagnosis from scurvy to acute leukemia.

#### Case and Exhibition of a Case of Pneumococcic Endocarditis.

**Dr. Robert B. Preble:** I wish to relate briefly a case of which specimens are on the table. The case is from the private practice of Dr. Geo. Butts, who after a period of three or four days sent the patient to the Wesley Hospital, from which time on he was under my care. These cases of endocarditis developing in the course of a pneumonia are not new. The literature extends back into the early portion of the last century, but the subject did not attract very much attention until the years 1885 and 1886, when Weichselbaum published a report showing that a considerable number of these cases were due to infection of the valves with pneumococci. The subject began to take on clinical interest, later when the bacteriological study of the blood made it possible for us to detect these cases clinically.

The case which we have tonight is a man, about 35 years of age, an ordinary laborer, who had been addicted to alcoholism so that when he entered the hospital on the 21st of March, he manifested rather violent delirium tremens, and upon physical examination he showed all the ordinary physical phenomena of pneumonia confined to the right lower lobe. The clinical picture was severe, and the associated delirium tremens made it unlikely that the patient would recover. After being in the hospital for three days he had a crisis, and his temperature returned to normal. He regained control of his faculties, and seemed to be doing all right. At the time of entrance he showed a leucocyte

count of 10,600. Pneumococci were present in the sputum, but not in the blood. He ran along after the crisis for four days with a normal temperature. On the ninth day after admission to the hospital, he had a chill, and his temperature arose sharply to 103°; the next morning he had another chill, and his temperature arose to 104.5°, but early in the afternoon it dropped down to practically normal again. In the evening, at about ten o'clock, he had another chill, and his temperature arose again to 105°. Then followed three days when part of the time the temperature was normal, and at other times it rose to as high as 101° and a fraction. On the fifteenth day he had two chills, followed by a rise of temperature to 105°. The next day he had another chill, with a temperature of 100°. At irregular intervals he had chills, each time the chill being followed by a rise of temperature to 102-4-5°. (Showed tracing.)

At first, there was some doubt as to whether or not the case might be one of empyema, but physical examination of the chest showed that nothing was going on there except a satisfactory resolution of the pneumonic process. About four days after the initial chill he developed signs over his heart. A systolic murmur appeared, located over the apex beat, and throughout the remainder of his life this murmur gradually increased in its intensity, and it was the sole cardiac phenomenon. There was no increase in the size of the heart; no accentuation of the second pulmonic tone; no other auscultatory phenomenon developed. The blood showed practically nothing; leucocytes had dropped down to normal. Blood cultures were made a number of times without success. After a period of about twenty-eight days he developed on the thirty-second day of his illness purpuric spots which were not evenly distributed over the body. They were confined largely to the face, neck, and upper portion of the thorax. They were quite numerous on the back, and there were a few on the legs where ordinarily they are most numerous. They were never very large. Blood cultures were made again that morning and showed pure cultures of pneumococci. Five days later the patient lost entire control of his mind, and gradually his strength failed until he died.

We were fortunate in being able to hold an autopsy in this case shortly after death. The patient died early in the morning, and the specimens were turned over as promptly as possible to Dr. Zeit for preparation and exhibition here tonight. Omitting the unessential portions, the autopsy showed endocarditis confined to the mitral valves in the form of a very large vegetation of the size of a hazelnut and many small vegetations. There were embolic changes in the kidney and spleen. In the heart muscle we found two or three areas of hemorrhage which do not show in the specimen. In the spleen there were a number of large infarcts. In both kidneys also were numerous infarcts, and one of the infarcts in the kidney had been dissected and shows the embolus in the vessel going to the infarcted area. Smears made from the vegetations of the mitral valve show a pure culture of the pneumococcus. Cultures were

made from the valves after a period of some hours, but are not pure pneumococci, for there were present some other organisms which were probably saprophytic. We have not yet been able to pick out the pneumococci pure. Cultures made of the blood before death showed pure pneumococci, and the smears made immediately at the autopsy, as soon as the heart was opened, showed also pneumococci. Unfortunately, there was a delay of a number of hours between the time the autopsy was made and the time the material was turned over to the pathologist.

There can be no question whatever that we have here one of the still relatively rare instances of pneumococcic endocarditis, presenting itself in such a way as to enable us to make the diagnosis during life.

You will recall that two or three weeks ago Dr. Billings showed specimens from two cases of pneumococcic endocarditis. Both of his cases were examples of acute endocarditis manifested on an old endocarditis. I have also records of two other cases of endocarditis developing as a result of pneumonia. These cases, however, fortunately recovered, but with valvular defects. In both I was able to demonstrate repeatedly the presence of pneumococci in the circulating blood. Both clinically and pathologically these cases do not differ from the cases of acute endocarditis of other origin. One cannot infer from the clinical or pathological picture what the infective agent is. That can only be determined by means of bacteriological methods.

**Dr. Miller** (closing the discussion): I wish to emphasize the point made by Dr. Herrick. Apparently the presence of an enormous number of lymphocytes in the pleuritic fluid means that the process is tubercular; but their presence in limited numbers does not necessarily mean that the process is not tubercular.

**Dr. Churchill** (closing the discussion): I would like to ask Dr. Herrick in the case he cites, how many counts were made from the time the diagnosis was made until death occurred?

**Dr. Herrick:** It is true that in that case the examination was not as perfect as it might have been, and I do not know how many counts were made, yet certainly no marked reduction in the lymphocytes occurred.

#### NORTH SHORE BRANCH.

The North Shore Branch held its regular monthly meeting in Hipple & Clark's Real Estate office Tuesday evening, May 3, 1904. The following program was given:

**Clinical Diagnosis of the Malarial Parasite.** (Illustrated with drawings and microscopical specimens.)

**George Edwin Baxter.**

It may be well to preface this paper with the statement that the writer makes no attempt to present any new observations in the study of this classic disease nor to present an exhaustive resume of the work already done, but



to give some practical clinical points which will aid the practitioner in diagnosing malaria by the recognition of the malarial parasite.

For the greater part of our present knowledge of the malarial parasite we are indebted to Thayer, Osler, Hewesten, Mitchell, Barker, Dock and Ewing of this country; Ross, Laveran, MacCullom, Marchiafava in the old country.

**Historical.** The history of the study of this disease from an etiological standpoint dates back to the fifth century, B. C. when Empedocles of Agrigento noticed "injurious effect of stagnant water on the health of man." Hippocrates distinguished intermittent and continuous fevers and classified them into tertian, quotidian, and quartan. Little advancement was made in the knowledge of malaria until the 18th century, when the therapeutics underwent a revolution by the discovery of the cinchona bark and its application as a specific remedy for certain essential fevers. This led to the two great divisions of these fevers, into curable and non-curable with the cinchona bark. More careful investigations were made to ascertain the true nature of those fevers and many and varied theories expounded. Lanci recognized "noxious emanations from marshes," studied this air with the view to finding some insect demonstrable under the microscope. The humoral theory had its exponents, basing their ideas on inaccurate pathological findings. There were two phases to the humoral theory: first, that in the pernicious forms of malaria there existed an inflammatory process in the alimentary tract and associated viscera. This led to a treatment by bleeding instead of use of the cinchona bark. Second, the change in atmospheric conditions between day and night caused a peculiar perturbation of vascular and nervous systems with a resultant febrile attack. Rasori wrote: "For many years I have been of the opinion that intermittent fevers are produced by parasites which re-create an attack in the act of their reproduction, this occurring at more or less rapid intervals according to the species. Metaxa supported in part this theory and added that the duration of the attack is equal to the life of the parasite. Even after the pathological discoveries of Virchow, Meckel, and Fredericks much confusion existed as to the true nature of typhoid, so-called typho-malaria, yellow fever and dysentery; all were believed to be of malarial origin. It remained for Laveran in 1880 to discover the true nature and cause of the disease, in the plasmodium malariae.

#### Examination for the Parasite.

**Time for Making the Examination.** Formerly it was considered best to obtain the blood from the suspected case of malaria during the chill, others believed that better results were obtained in specimen taken immediately before or after the paroxysm. The most opportune time to find the parasite, according to Thayer, is eight hours before or eight hours after the paroxysm. Cabot says twelve hours before or after. If the observer is familiar with the development cycle of the parasite he will be better able to recognize it, because of the knowledge of the appearance at that particular time of development. As a rule the best time to look for the parasite is during

the middle 24 hours in the tertian variety. The quartan is best seen 12 to 24 hours after the paroxysm. The aestivo-autumnal is more irregular in its development and the time for examination can not be so easily determined.

**Technic.** Examination of the blood for any condition requires careful, accurate and fine technic, nor do we find this any the less true in examining for the malarial parasite. The technic although painstaking is nevertheless simple and easily within the reach of any one familiar with the normal histology of the blood and accustomed to the use of the microscope. It is better to use the 1-12 oil immersion lense, the practiced observer may use the 1-7 objective. When possible the fresh specimen should be examined.

**Preparation of Slides and Cover Glasses,** involves primarily absolute cleanliness. No cover glass or slide should be used which is not free from dust, oil, or any other foreign substance which would interfere with the uniform spreading of the blood or confuse the observer in determining whether a given substance be malarial pigment or dirt. Such mistakes are not so common in the fresh specimen where the pigment is actively motile but in the stained specimen it is not so easy to distinguish the true from the false.

**Method.** Wash thoroughly in soap and water. This the first and most important step: when carefully done is considered by many to be the only step necessary. Further cleansing may be effected by subsequent washing in a solution of equal parts of alcohol and ether and polishing with a clean bit of linen (pocket handkerchief) or piece of fine tissue paper, ordinary toilet paper will answer very well. Do not polish the glasses with cotton cloth or anything which will shed lint for the very act of cleansing would defeat the purpose sought. Care of the glasses after drying is of no little importance. If the clean glass be left exposed to the air for any length of time microscopical particles of dust will collect on it. This may be obviated by folding a clean piece of white note paper in the middle and as they are dried they are dropped from the piece of linen between the sheets of paper lying in the horizontal position, without bringing the glass in contact with the moisture of the fingers. Some observers advise heating the glasses as a final step in the cleansing process, personally I have never been able to demonstrate any superior advantage in the added heating. In all subsequent handling of the glasses forceps should be used or they may be held by the sides or corners between the thumb and index finger.

**Obtaining Smears.** After the puncture is made in the usual manner and the blood allowed to flow freely a small drop is selected (a large drop will spread too thick and spoil the smear) and the cover glass is brought in contact with the tip of the drop (taking care not to touch the skin with the glass) quickly inverted and let drop on the slide. A small drop, and clean glasses will insure a thin uniformly spread blood smear without any pressure. A properly spread smear should show, under the microscope, the R. B. C. lying in single layers, so that each cell

may be studied separately. Previous warming of the slides will prolong and make more active the amoeboid motion of the parasite. If it is desired to keep the specimen fresh for several hours paint a narrow rim of vaselin or paraffin around the edge of the cover glass.

**Examination of the Fresh Specimen.** Cabot says that failure to find the parasite in a case of malaria is due to one of three faults: first, too thick spreading of the blood, or, second, not looking long enough, or, third, poor light; therefore in a case of suspected malaria careful, diligent and persistent search must be made. In the early stages of development we look for the so-called hyalin body within a red corpuscle since the parasite is practically never seen outside of the corpuscle. Greatest confusion in the diagnosis of the hyalin form arises from the similarity it bears to the normal central light area of the R. B. C. By remembering the following points of difference the observer should easily exclude these artifacts:

First. They are far too numerous to be malarial organisms, rarely are there more than one or two malarial parasites in a single field.

Second. Light area of the corpuscle is in the centre, malaria organism is usually eccentrically located.

Third. They are usually round, the malarial parasite is irregular in its outline.

Fourth. They apparently increase or diminish in size as we focus on them, while the parasite grows dimmer or clearer.

Fifth. The color is brilliantly white, and shiny, while the malarial organism is a dull pearly white with tinge of yellow from the corpuscle substance.

Sixth. The edges are sharper, more defined; malarial organism fades off into the corpuscular substance.

Seventh. The Brownian movement, exaggerated when crenation is present, is a wavy undulation while the malaria parasite changes both its shape and position in the corpuscle, when pigment is present the rapid dancing motion of the granules is very characteristic and unlike anything found in the blood and when once recognized will not be forgotten. When the organism is dead it may be quite difficult to distinguish dirt from pigment.

As the parasite matures it may be almost impossible to see the remaining rim of the protoplasm of the corpuscle in fact in many cases in the full grown organism it cannot.<sup>1</sup> Occasionally one sees an extra corpuscular variety.

**Examination of the Stained Specimen.** When for any reason it is desired to obtain a stained specimen, the drop of blood is obtained in the usual manner but instead of dropping the cover on the slide it should be dropped on another cover so that the sides of one cover are at right angles to the other and the covers gently drawn apart while the surfaces are in contact and the smears allowed to dry. The specimens are then fixed by immersion in alcohol 95 per cent for 5 to 10 minutes, Ewing says there is no advantage in adding ether to the alcohol. More

rapid fixation may be accomplished by immersion for 1 minute in a  $\frac{1}{4}$  per cent solution of formalin in 95 per cent alcohol made fresh just before using. Heat fixation is not necessary or as satisfactory in this class of blood work.

**Staining.** Of the many different stains advocated all of which have merit two types have been selected as having given very good practical results in my hands. The protoplasm of the malarial parasite stains with the basic stains and its nuclear body with the intense nuclear stain e. g. haemotoxylin, or thionin or the red element in the polychrome methylene blue stain.

**First. Staining With Eosin and Methylene Blue.** This method is simple and gives very satisfactory results. The Jenner's stain or so-called Eosinate of Methylene Blue does not give quite as satisfactory results as staining with solution of eosin and followed with a solution of methylene-blue.

**Method.** After fixing the specimen it is stained for  $\frac{1}{2}$  to 1 minute, in a  $\frac{1}{2}$  per cent solution of eosin in 60 per cent alcohol, wash dry, and counter stain  $\frac{1}{2}$  to 1 minute in a saturated aqueous solution of rectified methylene-blue.

**Results:** Nuclei of the W. B. C. and malarial parasites are stained blue while the R. B. C. are a pale yellow color sometimes almost transparent. The light staining by eosin is absolutely necessary for the clear demonstration of the parasite with the methylene blue stain. Methylene blue fails to stain the nucleus of the young ring forms consequently a solution of hematoxylin may be used in place of the methylene-blue.

**Second.** The Wright's and the so-called Nocht-Romanowsky method of staining give the best results for studying the finer detail of the malarial parasite. The following is the Nocht-Romanowsky method of staining as described by Ewing, a fuller description may be found in his article on Malarial Parasitology, Journal of Experimental Medicine, 1901.

1. To 1 ounce of polychrome methylene-blue (Grubler) add 5 drops of a 3 per cent solution of acetic acid (U. S. P. 33 per cent).

2. Make a saturated 1 per cent watery solution of methylene-blue, preferably Ehrlich-(Grubler) or Koch's dissolving the dye by gentle heat. This solution improves with age and should be at least a week old.

3. Make a 1 per cent watery solution of Grubler's watery eosin.

To 10 c.c. of water add four drops of the eosin solution, 6 drops of neutralized polychrome blue, and 2 drops of 1 per cent methylene blue, mixing well. The fixed specimen is immersed specimen side down for 1 to 2 hours and will not overstain in 24 hours.

**Staining by Wright's Method. Formula for Stain:**  $\frac{1}{2}$  per cent Na HCO<sub>3</sub> in Ehrlich's Flask dissolve thoroughly and add 1 per cent Methylene Blue (Grubler, Koch's or Ehrlich's rectified.)

Steam in sterilizer for one hour; cool without filtering add with stirring a 1 to 1,000 Eosin yellow solution till a purple and metallic-like scum forms on surface and a black finely granular precipitate forms in suspension (takes 500 c.c.



of Eosin for 100 c.c. of Methylene Blue solution). Filter and dry without washing. Make saturated solution in Methyl Alcohol Puriss (0.3 Gm to 100 c.c.) Filter and add 25 per cent Methyl Alcohol. Wright's stain may be obtained already prepared at the Harvard Co-operative Society Store, Boylston st., Boston, Spencer Lens Co., Buffalo, N. Y., or Dr. Ross C. Whitman, Chicago Polyclinic Hospital, Chicago.

**Method.** Staining for one minute (to fix) add water drop by drop until semi-translucent reddish edges and scum forms and allow to stand 2 to 3 minutes. To differentiate wash in (distilled) water till reddish or yellow, at desired point dry quickly between filter paper and mount in balsam.

#### Result.

**Red cells** orange or pink.

**Small lymphocytes** stain dark purplish blue nuclei, robin's egg blue cytoplasm.

**Large lymphocytes**—two forms nuclei as above, first cytoplasm pale blue, 2d, cytoplasm blue and lilac or deep purple granules.

**Polymorphonuclear neutrophiles** stain dark blue or lilac nucleus; granules reddish lilac color.

**Polymorphonuclear Eosinophiles** stain nuclei same as neutrophiles, granules eosin color in blue cytoplasm.

**Mast Cells**—size of the polymorphonuclear with purple or dark blue irregularly shaped nuclei and cytoplasm sometimes blue, plus coarse spherical granules.

Staining with the Wright's stain and with Goldhorn's stain which is very like Wright's stain give very similar results to the Nocht-Romanowsky method, Wright's and Goldhorn's stains require no fixing except with the methyl alcohol used in the staining process. The rationale of these methods is not fully understood but it appears most probable that a staining agent which unites selectively with chromatin exists ready formed in the polychrome methylene-blue.

#### Morphology of the Tertian Parasite.

The time required for the development cycle of the tertian parasite in man is forty-eight hours, the full development is characterized clinically by the familiar paroxysm of chill, fever and sweat, hematologically by the segmentation and sporulation of the parasite.

**The Youngest Tertian Form.** The first stage in the development is the appearance of the hyalin-non-pigmented-intracellular organism. This body is found inside of the red blood corpuscle and corresponds in every detail with the spore resulting from the segmenter. Although it has never been demonstrated that the spores from the segmenting variety re-enter the red corpuscle there is practically no doubt that this process occurs. This, the youngest form of the tertian is about 2 microns in diameter, compact, spheroidal, oval, or irregular in shape, pearly white in color in the fresh specimen. In a stained specimen there is seen an outer rim of basophilic protoplasm surrounding a nuclear body which does not stain with the methylene blue but re-

acts to the hemotoxylin or to the Nocht-Romanowski or Wright's stain.

**The Tertian Ring Form.** The next stage or rather a continuation of this stage is the tertian ring form, in size about 3-4 microns in diameter. This form is retained without marked change in size for about 6 to 8 hours. In the fresh specimen the active amoeboid motion gives rise to all sorts of shapes and irregularities in contour; occasionally the ring seems to unfold and the parasite stretches clear across the swollen cell, with the nucleus at one end. Usually a few pigment granules are seen; the ring almost always encloses a considerable mass of Haemoglobin. The nuclear body is the most characteristic feature, appearing as a rather large, achromatic, highly refractive body with methylene blue stain, but stains intensely with hematoxylin and by Nocht's or Wright's method. It is during this stage that care must be exercised not to confuse the normal central light area of the red corpuscle mentioned above.

**The Intra-cellular Pigmented Form.** After 6 to 8 hours the tertian ring begins to increase more rapidly in size, becomes more actively amoeboid, develops an outgrowth from one segment of the ring; the nuclear body increases in size projecting into the ring and the chromatin divides into several large granules. Pigment granules are abundant and more actively motile.

Toward the end of the first 24 hours the parasite occupies about three-fourths of the swollen cell, which gradually loses its Haemoglobin and is much paler. The amoeboid motion is distinctly less active, the protoplasm more homogeneous, the outer portion stains more deeply than that immediately around the nucleus; pigment granules, now very abundant, are eccentrically located. The shape is more round or ovoid. The nucleus more nearly fills the ring, stains a pale blue with the methylene-blue and less intense with the former stains it reacted to. The parasite reaches its full growth about the 40th hour of the cycle. The nucleus disappears to reappear as the refractive spots in the pre-segmenting variety and finally in the rosettes.

**Tertian Rosettes.** This constitutes the segmenting stage of the developmental cycle which finally breaks up giving out some fifteen or twenty spores. When the parasite reaches its full growth, the pigment loses some of its activity has a tendency to migrate from its eccentric location toward the center, granules group closely together are coarser, darker in color, often compacted into spikes or rods and finally the groups mass in the center so that it is difficult to distinguish the individual granule. About 15 or 20 refractive spots appear around the periphery of the parasite, these spots stain with the same stain as the original nucleus. Following the appearance of the refractive spots are seen dim linear shadings beginning at the periphery and radiating toward the center, each line is located about midway between the refractive spots, coincidentally the peripheral rim of the parasite becomes corrugated, each corrugation capping a pair of the shadings thus dividing the parasite into as many segments which, when

the limiting membrane of the corpuscle is broken are set free as spores to be again taken up by other corpuscles.

In the stained specimen we note that the protoplasm of the parasite stains a blue with methylene blue and the nucleus remains unstained, the older the parasite the less reaction of the protoplasm to the methylene blue and the less intense the nuclear stain with the Romanowsky or Wright's.

**Extracorporeal Parasites.** Many parasites which begin as intracorporeal organisms do not complete the usual cycle of development, but break through the corpuscle and are seen free in the blood, these extracorporeal forms probably do not exist in the human body and their exit from the cell may be facilitated by the addition of a little water or salt solution to the specimen. These forms end their career in different manners. Some increase to the size of a Leucocyte have very active pigment, gradually the pigment becomes less motile, parasite is irregular in shape and finally undergoes a fragmentation. Others degenerate and form vacuoles, and one of the most interesting changes in the extracellular form is the development of flagella. The chromatin increases in quantity breaks up into several small filaments, the pigment at first very active collects near the center, after a few undulating movements from 1 to 6 filaments or flagella are given off from the periphery. These flagella frequently have small nodular enlargements along their sides which may contain a few pigment granules. Pigment granules may collect in the extremity of the flagellum. Flagella are from 5 to 20 microns long and very actively motile, often causing a great commotion among the red cells in the immediate vicinity so that the observers attention may first be directed to these disturbed red corpuscles. The final disposition of the flagella is either reincorporation or separation from the parasite. These flagella have been seen to enter the body of another parasite and consequently have been considered to be the male sexual element.

#### **Estivo-autumnal Parasite.**

**Ring Forms.** In the estivo-autumnal variety the parasites do not have a regular 48 or 72 hr. cycle of development but they are found in different stages of development in same individual. Sporulation takes place at irregular intervals giving rise to irregularity in the occurrence of the paroxysms. In some instances the cycle of development is 24 hours in others 48 hours and in others a longer time is required. The young hyalin form of the estivo-autumnal bears a strong resemblance to the similar forms of the tertian and quartan varieties. The extreme rarity of the quartan parasite in this country puts it in the class of medical curiosities rather than making it of any practical importance, consequently in the differentiation of the young malarial parasites the quartan variety will not be considered.

#### **Comparison of the Tertian Ring and Estivo-autumnal Ring.**

First. Ewing asserts that the nuclear body of the young tertian parasite is achromatic to

the methylene-blue, which densely stains the nucleus of the estivo-autumnal organism.

Second. The shape and contour of the tertian ring is usually coarse and irregular, but the estivo-autumnal ring is geometrically circular, more delicate, fine bow and usually a typical signet like swelling. In the fresh specimen there is noted a continued succession of change in the shape of the estivo-autumnal from disc to ring to disc, which DaCosta asserts is highly characteristic of this organism.

Third. One or two pigment granules are usually found in the early tertian ring and are as constantly absent in the estivo-autumnal ring.

Fourth. Gautier asserts that the tertian ring is usually pigmented before the chromatin becomes subdivided, while the chromatin of the estivo-autumnal ring is always subdivided before appearance of the pigment.

Fifth. The corpuscle is swollen from the moment of infection by the tertian spore, and usually shrunken and brassy in appearance when the estivo-autumnal parasite is present.

#### **Full Grown Pre-segmenting Form.**

The estivo-autumnal parasite continues to grow with varying rapidity from the signet ring form to the pigmented pre-segmenting variety and the rosette. The latter two varieties are rarely seen in the peripheral blood and in order to be studied the blood must be taken from the internal organs, e. g., the spleen. The pre-segmenting variety differs from the corresponding variety of the tertian organism, in containing smaller amount of darker, less actively motile pigment, has less amoeboid motion.

#### **Estivo-autumnal Rosette.**

The estivo-autumnal rosettes differ from the tertian rosettes in the smaller size of the body, the shrunken appearance of the cell, and in the smaller but not number of spores. The pigment which early in the pre-segmenting stage is found in two or three groups is now seen in a single compact mass. According to Gautier the early concentration of pigment is one of the chief features which distinguish the estivo-autumnal rosette from the tertian rosette.

#### **Species of Estivo-autumnal.**

Members of the Italian school who have done so much work on this variety of the malaria parasite maintain that there is a plurality of species in the estivo-autumnal groups of parasites and have distinguished two varieties the quotidian and the malignant tertian. However there does not exist a unanimity of opinion among the observers that these two varieties which so closely resemble each other, that it is only possible to differentiate them in the full grown organisms, are two species but on the contrary closely related varieties of one and the same parasite.

#### **Crescent Forms.**

On or after the 4th to the 6th day after the initial paroxysm there may be found the crescent body or its allied forms, which is a very characteristic and distinctive form of the estivo-autumnal parasite. The crescent persists in the blood for six weeks or longer and clinically has



been observed to be very resistant to the administration of quinin. The crescent is represented by the round, oval of typical crescent shape and constitutes the early forms of the sexual cycle of the parasite. The origin of the crescent may be directly from the spores or what is more probable that they develop from the same parent body in which the young parasites are of crescent form before their discharge from the mother cell. The average crescent is 6 to 12 microns in length, 2-3 microns in breadth, when full grown. The young crescent alters its shape by contracting and swelling, but has no amoeboid motion. The pigment is in the form of coarse golden yellowish grains, or rods, arranged in a single central mass or like the figure 8. Some writers describe the crescent as possessing a double outline as though the parasite was enclosed in a membrane. The parasite develops in the body of the red corpuscle which ultimately gives place to the organism and frequently nothing remains of the corpuscle but a small portion at the convex side which has been given the name of "bib." Some of the crescents may develop flagella. When blood containing crescents stands in the air or is left under a cover, the crescent assumes a spheroidal form active vibratory motions of the pigment begins, and soon pseudopodia shoot out with active lashing movements. The formation of the flagellae represents the second stage in the sexual cycle probably never occurring in the human body.

Although not within the scope of the present subject the clinical aspect of malaria would not be complete without a mention of the method of contagion. We are largely indebted to Ross for his discovery of the relation of malaria to the mosquito and the knowledge that the only means of acquiring malaria is to be bitten by an infected mosquito. The parasite undergoes a definite cycle of development in the body of the mosquito. One chief point of difference between the cycle in the human and mosquito is that the former is asexual and the latter sexual development.

**Demonstration of Forceps operations on the Manikin.** (Report not received.)

Charles B. Reed.

The papers were discussed by Drs. Whitman, Healy, Bachele and Garvy.

In place of the regular April meeting the Branch held its first annual reception and banquet for the members and their wives. About 50 were present and a thoroughly good time was enjoyed by all. The members were unanimous in the opinion that such an occasion is a necessity for the promotion of better acquaintance and good fellowship in the local profession.

#### NORTHWEST BRANCH.

The Northwest Branch of the Chicago Medical Society held its regular meeting on Friday, May 6th, 1904, at Kapp's Hall, N. W. Cor. California and North Aves. The attendance, which was sixty, was the largest of any previous

meeting and included visitors as well as members. The following program was given:

#### Symposium on Tuberculosis.

#### The History of the Discovery of the Tubercle Bacillus.

**Melchior Whise:** The modern conception of Tuberculosis is of recent origin, but the history of its existence and spread in man and beast may be traced back to the most ancient ages.

It was a destructive scourge, which kept pace with the advance of civilization during all past centuries. Right at the beginning of the foundation of communities it has raised its Medusa Head as a warning against crowding together in close proximity. It must have spread its deathly penalty among the Jews in the Desert, because as early as about the 14th century, B. C., the erring sons of Israel were threatened with Consumption as a punishment for their sins.

The word Phthisis was used in the 5th or 6th century, B. C., to designate wasting diseases in general, but Hippocrates used the Greek word Phthae in connection with respiratory disturbances exclusively.

The Jewish dietary laws, compiled and systematized in the 1st and 2d centuries, A. D., described Bovine Tuberculosis, or *Perlsucht* very lucidly, as tubercles in the lungs of cattle situated on the margin or imbedded into the lung tissue, and forming cavities therein and causing it to be so brittle as to fall to pieces at the touch, and was therefor forbidden to be used as food. This condition was considered surely destructive to the life of the animal within one year. Already the very oldest medical writers have given some thought to Tuberculosis of the Lungs. Hippocrates sums up some of its symptoms, Aretaeus gives a fine clinical and pathological description of Tubercular nodosities in the lungs. Galen, Maimonides, and the Arabian physician, Rhazes, allude very clearly to Phthisis Pulmonalis, Bonnetus describes cavities and granulations caused by tuberculosis, Sylvius, in 1670, gave expression to the belief that Tuberculosis and Scrofula are produced by the same causative factor. In the 18th century post-mortem studies were taken up with great diligence and energy, and a great deal of light was thrown on the pathological condition of Tuberculosis. Magnetius found miliary tuberculosis in 49 cases and describes the (as he puts it) *semen milii*, arising from the lymph glands in both men and animals. Numerous other writers, among them Dr. Baillie, described Pulmonary Tuberculosis, giving good clinical pictures and therapeutic measures. Tuberculosis was never considered as a general disease affecting other parts of the body than the lungs, until the early part of the 19th century.

Bayle, in 1810, was the first writer to report post-mortem findings of the tuberculosis in the mesentery, spleen, and liver. From this time on, tuberculosis was the most important subject in the minds of prominent medical men. Investigators were getting nearer and nearer to the realization of the true character of this, so called, White Plague. They were still groping in the dark, but they felt confident that the time would come when the veil of ignorance

would be raised from this rapidly and relentlessly spreading enemy of everything that is living and tuberculosis would be disclosed to its full extent. Several investigators gave the best efforts of their life to this study, but came to different conclusions, and in their blind zeal had tried to tear down what others had built in the right direction. Laennec, in 1819, described the tubercle as a pathological product which is positively absent in the healthy human body, and is only present as a cause of a particular disease by containing tubercular material, which is of the consistency of pus and permeates the whole tubercle. This was fought by Broussais and others, who claimed, that tubercularization was always the result of some inflammation like Pneumonia, Bronchitis, Laryngitis, etc. Lebert, in the second half of the 19th century, came one step nearer to the truth. He made microscopical investigations and discovered—what he called—**Corpuscle Tuberculeux**, but which were found to be nuclei, and epithelial cells in various stages of degeneration.

Laennec's teaching of tubercular unity suffered a great set-back by the fact, that in the early part of the 19th century tubercular pus was injected repeatedly into dogs and guinea pigs, without resulting in reaction. In 1826 Cruveilhier injected mercury into the trachea and veins of animals, and thereby produced nodular formations in the lungs, liver and mesentery as a proof that tubercles are not specific tubercular products.

Klencke, in 1843, and Villemin, in 1865, succeeded by injecting tubercular matter, in transferring tuberculosis to rabbits, and this fact gave an impetus for new hope and vigor to the school which believed with Villemin that "Tuberculosis must be the effect of a special virus which resides in the morbid product." Villemin announced on the 5th of December, 1865, that this special virus; when introduced into an organism susceptible to its impression, must reproduce itself in the same length of time as the disease of which it is the essential principle and cause. Cohnheim, Frankel and others denied this law and claimed that the same result may be produced by the injection of substances like Cinibar, Gutta Percha, etc., etc., but finally the unity and infectious nature of tuberculosis was accepted.

Science was making rapid strides in the right direction. In 1877, Klebs announced that injections of products from cultures give the same results as the injection of tubercular matter itself.

While Klebs' discovery was of an importance of the greatest magnitude and has established the infectiousness and transferability of tuberculosis beyond any dispute, the question still remains open: what was the true nature and active principle of the virus, which when transferred produced the same pathological condition in the tissue as was found in the one from which it was taken? This question was strikingly answered by Koch in 1882. He surprised the medical world by the announcement of his discovery of the Tubercle Bacillus, and published a full account of his research in 1884. He

proved conclusively, that Tuberculosis is produced by a living agent. His work on the subject will stand forever, as a classical masterpiece in bacteriological research. He overcame great difficulties both in demonstrating the bacilli in the tissues and in reproducing them in culture. In order to discover the bacillus, he had to find new ways of staining the specimen. He had also found that the Tuberculosis Bacilli could not be cultivated in liquid media, therefore he had to devise a solidified medium for his culture. On finding that the Tuberculosis Bacilli could not be stained by a simple watery solution of a basic aniline dye, he stained it for 24 hours with a solution of methylene blue.

The fact that it took at least 10 days before the bacillus appeared in the culture medium had not induced him to conclude hastily, that it could not be cultivated. He repeated his experiments in a great variety of ways; he inoculated the material containing Tuberculosis Bacilli into different animals and always succeeded in producing tuberculosis.

The outlook is encouraging and it is only a matter of time when the master mind of man will reign supreme in ridding suffering mankind of this gloomy inheritance of all past centuries.

#### General Etiology of Tuberculosis.

**R. S. Michel:** The exciting cause of tuberculosis is the bacillus tuberculosis, a rod shaped bacillus, often slightly curved, and from one-fourth to one-half as long as the diameter of a red blood cell. It is easily stained, together with the tissue in which it is imbedded. Its recognition depends upon the fact that it resists the destaining action of acids. Tuberculosis does not exist except by reason of the presence of this germ—hence this constitutes the prime factor in the case.

There are however many contributory causes, of which the most important are the following:

1. **Hereditary tendency.** By this is meant an inherited lack of resistance to the invasion of the germ; such an individual usually, but not always, has an illformed flat chest—a "phthisinoid chest." The expansibility of this chest is not good—especially in its upper part. This lack of expansion probably favors the lodgment and development of the bacillus. Why some fanatics should show a lack of power to resist tuberculosis we do not know. We only observe it as a clinical fact. Such persons are fair, and usually present an appearance of anemia.

2. **Age.** The great majority of cases of tuberculosis develop in persons between the age of fifteen (15) and forty (40). After the age of forty the individual is comparatively immune, and liability to the disease decreases with advancing years. Before the age of fifteen tuberculosis is uncommon. When tuberculosis does develop in childhood however, other structures than the lungs are more likely to be attacked—as for instance the cranial meninges, or the peritoneum. This fact cannot at present be satisfactorily explained.

3. **Race.** The Negro race is more prone to tuberculosis than the Caucasian. A Negro's power of resistance is less. In him is the dis-



ease much more certainly and rapidly fatal. In the Negro is seen the most typical cases of the so-called "galloping" consumption, or "hasty" consumption.

4. **Occupation.** Occupation is often an important etiological factor. Inhalation of dust in large quantities, even though the dust contains no bacilli, is very harmful. The kind of dust is not very material. Persons injured in this way are coal miners, millers, scissors grinders, glass grinders, stone cutters, buffers, planing mill men and many others.

The bronchi are supplied with minute hairs, or "cilia," whose office it is to keep the air passages clean and free from dust and foreign particles, and this office they perform under ordinary circumstances by means of their waving, sweeping outward motion. But if dust is inhaled in large quantities they are no longer able to perform this function. The cilia themselves are destroyed. The delicate mucous lining of the bronchi is then more directly exposed to the irritant action of dust. In time should the irritant still continue, the mucuous membrane is lost.

Nature comes to the rescue by throwing out fibrous material to protect the deeper layers of the bronchi. This fibrous material is sufficient often to constitute the so called "fibrous" lung. This constitutes "dust consumption" or "coal miner's consumption." Persons die of this disease without the intervention of tuberculosis. The lung tissue becomes fibrous, hard, and lacks normal resiliency.

By reason however of the diseased and denuded surfaces upon the bronchi the bacillus tuberculosis which is so universally present in the dust we breathe, readily finds a lodgement, and a fruitful soil upon which to grow. So in most instances tuberculosis is sooner or later grafted upon the case of dust consumption and death issues from a combination of the two causes.

5. **Other Diseases.** Certain diseases favor the tuberculous process, especially measles, bronchitis, whooping cough, and diabetes.

First in importance in this regard is measles. Why measles promotes a rapid onset in latent cases of tuberculosis is unknown. It is not due wholly to the catarrhal condition by which it is accompanied; the tendency is too marked to be explained upon this hypothesis. Nor is it due to the subsequent debility or prostration, for other diseases followed by prostration equally great do not possess this characteristic. We must acknowledge the clinical fact without at present being able to satisfactorily explain it.

In whooping cough it is due to traumatism down to the bronchi by the violence of the cough, and by interference with nutrition by vomiting.

In bronchitis the inflamed and congested membrane with occasional breaks in the continuity of the lining epithelium offer favorable opportunity for the lodgement of bacilli.

Diabetic patients are very prone to become tuberculous; this is due to the extremely low power of resistance of persons afflicted with this

disease. Under these circumstances the tubercular process advances very rapidly.

6. **Climate.** An important etiological factor is climate. Countries of the temperate zone having long, cold, damp, changeable winters, favor its development. This is due partly to the fact that under such circumstances persons remain indoors, thus being shut off from proper air, sunshine, and exercise; and partly due to the fact that such climates favor the development of catarrhal inflammations of the air passages. In our own country the dry, arid, sandy plains of New Mexico and Arizona, are comparatively exempt.

7. Individual habits are to be taken into consideration in this connection. In order to avoid the disease we should have plenty of out door exercise, air, and sunshine; especially sunshine. He who has observed the difference between a plant growing in the dark, and one growing in the sunlight can appreciate the effect of sunlight in the laboratory of nature. We should dress warmly, having flannel next the skin; eat nutritious and easily digested food, and be regular in our habits. He who lives otherwise, especially should he have the inherited tendency may invite tubercular trouble later on.

3. **General Morbid Anatomy.** Wm. A. Evans. (Report not furnished.)

4. **Social Influences; Sanatorium Treatment and Mortality of Pulmonary Tuberculosis.** Arnold C. Klebs. (Report not furnished.)

The discussion, which was opened by W. A. Evans became general and free and a number of valuable and interesting points were brought out which unfortunately cannot be recorded owing to the absence of a stenographer.

Motion to appoint a committee of three to draft resolutions endorsing Dr. Evans' candidacy for president of the University of Illinois carried. The following were appointed: Drs. Henderson, Fowler and Senfert.

Following are the resolutions brought in by the aforesaid committee:

Whereas, Wm. A. Evans, an eminent member of our profession has been mentioned as a candidate for the position of president of the University of Illinois; and

Whereas, We, the members of the Northwest Branch of the Chicago Medical Society, know him to be a man in every way thoroughly qualified for the position; therefore, be it

Resolved, That this branch most heartily and earnestly endorse his candidacy.

On motion the Society adjourned until June 3, 1904, annual session for the election of officers.

#### CHICAGO PEDIATRIC SOCIETY.

##### Officers.

President ..... S. J. Walker  
Vice President ..... F. S. Churchill  
Secretary and Treasurer ..... Emma M. Moore  
Member of Executive Committee ..... A. C. Cotton

The annual meeting of the Society was held in Schiller Hall, Tuesday evening, May 17, 1904, with Dr. M. P. Hatfield, in the chair.

Dr. J. C. Cook, as superintendent of the Jackson Park Sanitarium for sick babies, made the statement that a medical board had been

elected from the members of the Society, by the executive committee, to serve for one year at the Sanitarium, this board to consist of a visiting staff, a staff of alternates and a consulting staff as, follows:

Visiting Staff—Drs. M. P. Hatfield, J. C. Cook, Rosa Engelmann, Wm. C. Williams, Anna R. Lapham, Frank X. Walls, Emma M. Moore.

Staff of Alternates—Frances M. Allen, Julia D. Merrill, Dudley Jackson, Frank M. Kindig, D. W. Rogers, Geo. T. Palmer.

Consulting Staff—A. C. Cotton, Effa V. Davis, S. J. Walker, F. S. Churchill, John L. Porter, I. A. Abt.

Gratifying reports were read by the secretary and treasurer.

Election of officers resulted as above.

#### Program.

1. **The School as a Medium for the Spreading of Contagious Diseases.** Dr. Elsworth M. Conner.

2. **Report and Presentation of Case of Acquired Deaf-mutism.** Dr. Bathena Coone.

3. **Syphilis; Haemorrhagica Neonatorum.** Dr. J. H. Hess.

Society adjourned.

#### CHICAGO SURGICAL SOCIETY.

The President, E. Wyllys Andrews, M. D., in the chair.

##### Carcinoma of the Cheek.

Dr. Nicholas Senn reported a case of extensive carcinoma involving the left cheek, in the center of which was a perforation which communicated with the cavity of the mouth. Acting upon the supposition that it might be a case of abscess, he resorted, first, to curettage, hoping to improve the local condition as well as giving an opportunity to make an early diagnosis by the aid of the microscope. Sections under the microscopes showed it to be a case of unusually malignant form of carcinoma that had its starting-point somewhere about the alveolar process on the left side, involved the entire cheek, and gave rise to extensive destruction. There was extensive regional dissemination, although the disease had lasted only three months. A radical operation was resorted to. The entire cheek was removed, leaving the angle of the mouth, and a small portion of the cutaneous covering of the cheek. He sacrificed the periosteal covering of the lower jaw on the corresponding side, and made regional dissection by removing the submaxillary gland with the chain of lymphatics as a preliminary to the excision of the cheek, and covered the enormous defect which was produced by a plastic operation, using Thiersch's skin grafts. The wound healed by primary intention throughout.

##### Multiple Tubercular Abscesses.

Dr. Senn reported a case of tuberculosis of the ribs, of a most pronounced type, in a man of forty years of age. Three large tubercular abscesses involved the left side of the chest. One of these ruptured spontaneously, and a fistulous opening communicated near the nipple with a very large abscess cavity. Another abscess was found at the junction of the ribs with the car-

tilage near the sternum, and another to the left of the mammary line. The third, fourth and fifth ribs were the seat of tuberculosis. The first abscess was the result of tubercular perichondritis. The focus of tuberculosis of the fourth rib was almost directly over the pericardium close to the nipple. The third abscess was a little to the left and involved the fifth rib. The ribs were resected in their entirety, necessitating an extensive operation.

##### Acute Osteomyelitis.

Dr. Senn showed a patient for the purpose of making a few remarks in reference to the clinical behavior of certain forms of acute osteomyelitis.

##### Cysts of the Ductus Thyroglossus.

Dr. Senn had encountered three cases in two weeks of cysts of the ductus thyroglossus. The patients were all young subjects, eighteen to twenty-five years of age, two females, and one male. The cysts were comparatively small. The largest one was about the size of a small walnut. They were located in the median line between the thyroid cartilage and the base of the hyoid bone. The enlargement was slow, accompanied by pain and swelling. The skin was movable over the surface of the swelling in all of the cases. Fluctuation was distinct. Complete excision was resorted to. The cyst wall in one of the cases was as thin as tissue paper.

##### Fibroma of the Periosteum.

In the last ten days Dr. Senn said he had encountered two cases of fibroma of the periosteum. In the first case the fibroma had its starting-point from the periosteum of the second rib close to the cartilage. The tumor extended over the surrounding bony framework in mushroom-like manner, and underneath the clavicle. The tumor was removed through a curved incision, with its convexity directed upward, and the flap reflected as far as the clavicle, thus laying bare freely the base of the tumor, which he found intimately attached to the periosteum of the second rib near the sternum. The tumor was very firm and smooth, and on making a section it cut almost like cartilage.

He removed a second fibroma of the ribs last Friday from a woman, 30 years of age, which was situated at the lower part of the scapula. The patient first noticed the tumor eighteen years ago. It became stationary, but later gave rise to serious functional disturbance by fixation of the arm. The tumor was removed.

##### Verruca Senilis.

Dr. Senn exhibited two specimens from the face of a woman, 71 years of age, the subject of multiple senile warts. In both cases the disease involved the malar prominence on both sides. There were a number of these warts scattered all over the face, those over the malar eminence being the seat of repeated irritations and had undergone transformation into epithelioma.

##### Myositis Ossificans.

Valuable as the X-ray is as a diagnostic resource, Dr. Senn said occasionally it leads



physicians into difficulties. He related a case briefly in confirmation of the correctness of this assertion. The patient was a colleague upon whom he had operated twice before, once for a diffuse septic inflammation involving the right arm and forearm, and a second time for appendicitis. For a number of months he had complained of a vague pain in the right shoulder. The patient regarded it as a rheumatic affection. Local and general treatment failed to give relief. The pain increased in severity, and the shoulder joint almost completely lost its function. Dr. Senn could find no indication of any swelling, but found at a point corresponding to about the middle of the base of the deltoid a limited area of tenderness. The X-ray picture showed in the center of the deltoid muscle a dark elongated spot. The shoulder joint itself was normal. He thought he would make no mistake if he considered the case on the face of the photograph one of myositis ossificans. He thought the dark island represented bone tissue in the deltoid as it appeared entirely separated from the greater tuberosity of the humerus. Upon this supposition he acted. He laid the deltoid muscle bare by a curved incision, reflected the flap upwards, and found the deltoid absolutely normal. In palpating the deltoid he found at a point corresponding to the outer side of the bicipital groove of the greater tuberosity a hard swelling. He separated the deltoid vertically by the use of a director and came down to a hard mass, not bone, but underneath the periosteum it appeared to be encapsulated. He incised and exposed a large mass of inorganic salt-sodium bi-urate.

Dr. Senn also reported two cases of lipoma arborescens. He also exhibited the new army splint devised by Hoard W. Beale, and a combined stretcher and splint devised by Professor Stokes.

#### The Union of Ununited Fractures of the Neck of the Femur by Open Operation.

Dr. Leonard Freeman, of Denver, Colorado, read a paper, by invitation, on this subject. He went at length into the literature of this subject, after which he reported a case of his own in a heavy, muscular man, thirty-two years of age, who had injured the right hip by falling on it in 1903. Patient was up on crutches in about four weeks, the extent of the injury not having been recognized. When he saw him on September 23, 1903, about four months after the injury, the patient was still unable to use the limb in walking, owing to pain in the hip and knee. There was shortening of two and a half inches, with a corresponding elevation of the trochanter, although this could easily be overcome by traction, the manipulation being accompanied by indistinct crepitus.

Operation was performed Oct. 10, 1903, about five months after the injury. Anterior longitudinal incision was made external to the sartorius, through which the neck of the femur was readily exposed, and the fracture located near the end of the bone. With difficulty a mass of tough, fibrous tissue was snipped with scissors, between the ends of the fragments, which were freshened on each side of the gap with a chisel. A small incision was then made

over the trochanter externally, and a hole for the reception of the screw drilled through the base of the trochanter, the external fragment of the neck, into the head of the bone. The drilling proved to be a mere form, for the bones were so soft that the blunt screw could have been pushed directly through it without the boring of a preliminary hole. When the screw was in place, its outer end projected between the stitches used in closing the wound. Owing to the softness of the bone, the parts, although receiving considerable support, were far from firmly held, so that it was possible to displace them with moderate force by rotating the limb or pushing it upwards. On account of oozing, it was necessary to pack the wound with a strip of gauze which was removed in a day or two, the opening closed, and primary union obtained. Extension a long side splint, and a pad beneath the trochanter were employed. For several days the suffering was great, necessitating the constant use of morphine. In a week or so a little infection appeared about the opening through which projected the screw, which at the end of about two weeks caused a rise in temperature to nearly 100°, accompanied by chills and much general disturbance. On removal of the screw these unfavorable symptoms subsided, showing that they were probably due to infection of the cancellous structure rather than the joint. The subsequent recovery was rapid and uninterrupted. There was about one inch shortening. In the face of various tests, the union seemed to be sound and bony. He examined the patient again, a little over six months after the operation, and found the following condition: Union apparently firm, considerable callus, flexion to nearly a right angle, rotation almost normal, and about one and a half inches shortening. There was still enough pain in the joint anteriorly to prevent the patient discarding his crutches, although it was much less than before the operation, and was decreasing constantly. When not attempting to walk, the weight could be borne upon the limb with but little, if any, discomfort. Up to the present time the case had not been a complete success, the result being marked improvement only. What the ultimate outcome would be was yet to be ascertained.

Dr. Nicholas Senn questioned whether Dr. Freeman had reached an ideal result in his case. In the years 1882 and 1883 the speaker studied this question scientifically. Up to that time it was doubted whether union by bone under any circumstances could be obtained in cases of intracapsular fracture of the neck of the femur. He produced this fracture on the lower animals by drilling the neck of the femur in different directions and fracturing it, satisfying himself in each instance that he had produced a fracture inside the capsule. He treated 23 of the animals thus experimented upon by the methods then in vogue, but in all of these 23 cases he failed. He then resorted to direct methods of fixation. Breaking the bone in a similar manner, he made use of ivory bone pegs and metallic nails. In ten experiments following the 23 failures he demonstrated that he had obtained bony union in nearly all of them. He

found afterwards that the same results in the human subject were obtainable by indirect methods of fixation by bringing the fractured surfaces in contact and holding them in apposition by lateral pressure by a splint of his own device. He had treated since that time fifteen or twenty cases, and in the majority of them could not only demonstrate excellent functional results, but union by bony consolidation.

**Dr. Arthur Dean Bevan** spoke of fracture of the neck of the humerus, and reported three cases upon which he had operated. In these he had made the open operation, wired the fragments, or had resected the head of the bone. He had one case of infection, which resulted in the loss of function of the shoulder joint temporarily, and endangered the life of the patient for weeks. In the other two cases he obtained union by primary intention, and the results were satisfactory.

**Dr. A. J. Ochsner** had followed the method of treatment described by Dr. Ruth, in a paper read before the American Medical Association, in 16 cases, two of which died. There was union in all of them. The amount of shortening in all of them was less than three centimeters. He had made the open operation in one case only of ununited fracture with painful hip. He used two Parkhill screws through the neck and the head, but the result was not satisfactory, as it was necessary subsequently to remove the head.

**Dr. Alexander Hugh Ferguson** had treated three cases of ununited fracture of the head of the femur by the open operation with very good results.

**Dr. Freeman**, in closing, agreed with the speakers that in recent fractures of the neck of the femur the open operation should be avoided. He did not think there was as much danger attending the open operation from infection as Dr. Senn had intimated. Parkhill had used his clamp in 15 or 20 cases without bad results. Infection, when it occurred, was along the tract of the screw into the cancellous tissue, and in his own case as soon as the screw was removed the infection subsided.

A. E. Halstead,  
Official Reporter.

#### CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL ASSOCIATION.

A regular meeting was held April 18, 1904, with the President, Dr. John Edwin Rhodes in the chair.

**Dr. Rhodes reported a case of Traumatism of the Neck, followed by Obstructive Tumor in the Larynx, with Operation, and Recovery.**

This patient, S. A. is 16 years of age, Polish, and a currier in a tannery, by occupation.

He had never been very strong, was a puny baby and sick up to the time he was 2 years of age. After that he was in fairly good health up to 2½ years ago, when he was bedridden for two months and then regained his former health. The nature of his complaint, at that time, is uncertain, although he is said to have had consumption. He has smoked a little and drank beer to a moderate extent only.

His father, mother, two brothers and sisters

are all living and well, and no hereditary diseases in the family are known.

In the tannery, he had charge of a scour machine. This consisted of a broad plank, which, when a hide had been stretched over it, was carried up between two rollers; the device being operated by a belt.

On the 10th of October, last, he was adjusting the machine, having his head between the plank and the rollers, when the machine was suddenly started, and his neck was caught between them. He says this occurred three times, in quick succession; the third time his neck was held fast, the belt sliding, thus saving him from more serious injury. A fellow workman then rescued him. He did not become entirely unconscious. His neck became swollen at once and pain was marked, and he immediately began spitting blood and continued to do so for six hours. Breathing, which had been perfectly good before the accident, became difficult and the voice, which had always been clear, became very hoarse. He was taken by his physician, Dr. Laibe, to St. Mary's of Nazareth Hospital, later in the day, and an examination showed the neck to be greatly swollen from the sternum to the chin. No marks of injury were found. At this time, breathing was very labored, speaking difficult and cough was frequent. There was also marked dysphagia. Tracheotomy was contemplated but not performed, at this time. The tongue was heavily coated, breath foul, the pharynx red and covered with viscid mucus, the uvula was oedematous. No examination of the larynx was made then. He improved gradually and the more acute symptoms subsided, but he was still very hoarse and breathing was very difficult when he left the Hospital, Nov. 1st.

He returned to the Hospital, Dec. 21st, having a small abscess in the median line over the thyroid cartilage. This was opened and a grape seed was found in it, which had probably found its way into the tissues from the oesophagus. Dr. Laibe referred the patient to me on Jan. 15th. He was breathing, at the time, with a marked inspiratory and expiratory stridor. There was recession of the lower part of the chest and he was very hoarse. Otherwise, he was in fairly good physical condition. His tongue was clean, the pharynx and uvula were normal, the tonsils moderately enlarged.

On examination of the larynx, I found there was marked thickening of the ventricular bands the ary-epiglottic folds the arytenoids and the cushion of the epiglottis and such deformity of structure that the lumen of the larynx was scarcely one-fourth of its normal size. Into the lumen there projected, growing from the right ventricular band, a mass of tissue, the size of a small bean, which acted as a valve in closing the lumen, both during inspiration and expiration. After spraying the larynx with a 10 per cent solution of cocaine, the growth was seized with Frankel's Crushing Forceps, but was so densely fibrous that it could not be extirpated with them.

An alarming spasm of the larynx, with increase in his difficulty of breathing, followed any manipulation in the larynx, so I decided



a preliminary tracheotomy was necessary. This operation was done three days later, and, on the 24th of January, after cocaineizing the larynx, I succeeded in quickly engaging the growth in the loop of a cold wire snare, and, using some force, cut it off completely from its attachment to the ventricular band. He now breathes easily and has a fairly good voice, although the lumen of the larynx is much decreased by the distortion following the accident.

It is interesting to note that his heart is on the right side, and he has a pigeon's breast, but not to a marked degree.

**Dr. Wm. E. Casselberry:** I would like to ask Dr. Rhodes as to the histologic nature of this growth.

**Dr. Rhodes:** It has not been examined.

**Dr. Shambaugh:** Where was the growth located?

**Dr. Rhodes:** It sprang from the right ventricular band of the larynx about midway between its anterior and posterior extremities. The larynx was much distorted and the swelling of the structures within the larynx still remains. The lumen is a small irregularly triangular opening only. Breathing is not as good as it was before the injury. The boy, however, is in excellent health at the present time, and there has been no evidence of a return of the growth.

**Dr. T. Melville Hardie** reported two cases. (Report not handed in.)

**Dr. Joseph C. Beck:** This case is interesting to me because a couple of weeks ago I was in Cincinnati and Dr. Vail reported to me a similar case in which he made a diagnosis of frontal sinusitis. He operated in the usual manner, opening the frontal sinus, and this was practically all he did, he evacuated the pus from the sinus, drained, after which the patient was put back to bed. The patient did not do as well as he had expected, consequently it became necessary to do a secondary operation which, however, did not turn out as well as in Dr. Hardie's case.

Very often these cases do not do well after operation; there is a continuation of the discharge of pus as the result of epidural abscess, which does not go on to the formation of meningitis, but which requires a secondary operation. It is very fortunate that Dr. Hardie accomplished a good result in one sitting.

**Dr. Wm. E. Casselberry:** In consideration of the perfect recovery which has taken place in this case, after what is now considered to be a method of comparatively slight operating, I would like to ask Dr. Hardie whether it was strictly an acute case, or whether the patient gave any previous history of suppuration of any of the sinuses. Also, I would like to inquire concerning the condition of the middle turbinated bodies and the ethmoid region in general, in view of the fact that there has been such a perfect recovery. We understand that the reason why so many changes are obstinate, even after external operation, is because they are long-standing, old, chronic cases, and that there has been engendered a pyogenic condition of the membrane, with infiltration, thickening and granulation tissue, very frequently, and my inquiry is directed toward an explanation of the

apparently easy recovery which has occurred in this instance. Assuming that the case was strictly an acute one of short duration, which we know will recover more rapidly and promptly than the more chronic conditions of suppuration, without extensive infiltration or ethmoidal disease, the explanation is apparent.

**Dr. E. F. Ingals:** I want to call attention to an operation that I recently advocated at a joint meeting of this Society and the Chicago Medical Society but which was mixed in with so many other things that it was hardly noticeable. The operation seems especially desirable for acute cases, but it would not answer in such a case as Dr. Hardie presented. However, for the majority of acute and for many old chronic cases, I believe it the best operation that has been proposed. I have operated on two patients recently by this method, which consists in passing a pilot through the normal opening and thus running a hollow bur over it enlarging the normal opening to a quarter of an inch. The opening could be enlarged to half an inch, if desirable but I thought a quarter of an inch large enough. The operation is easily, plainly and safely performed without a scar and with the new drainage tube that I have perfected appears to meet every indication excepting in the few cases where curetting is necessary.

**Dr. E. F. Ingals** read a paper entitled (1) **The Home Treatment of Pulmonary Tuberculosis.**

**E. Fletcher Ingals:** Many physicians believe that the treatment of pulmonary tuberculosis is absolutely useless unless the patients can be sent to a favorable climate; but others have such great confidence in therapeutic measures that for a time at least they hope to cure many of the cases that fall to their care.

As a matter of fact, we know that at least two-thirds of the cases of pulmonary tuberculosis recover for statistics show that only 12 per cent die of this disease and autopsies show that 25 per cent have recovered from it. Of the very early cases the proportion of recovery is greater than this; but when the disease becomes well marked it is probable that less than 25 per cent recover. While there is no specific treatment for this disease, I believe that the painstaking physician may greatly prolong the life of many of the well marked cases and may practically cure a considerable number. It should be understood that no case can be considered cured in less than two or three years, and none can properly be termed cured unless all distinct signs of the disease have disappeared, however, those cases in which the disease is arrested even though signs remain are practically cured if the disease does not again become active. You and I can recall many cases that would come under one of these heads; but we can not often be sure of the cause of betterment. I believe that the so-called antiseptic treatment is often beneficial, the open air treatment about equally so, and forced feeding is more important than either, while tonics, digestive agents and anodynes that do not interfere with the ordinary functions of the body are also of much importance. Nothing should be given that will interfere with digestion. To

do the best for our patients, we should generally combine all of these and when practicable the sufferer should be placed in a good climate; but often this is impracticable and for such cases we must do the best we can at home. I wish to cite only two cases in illustration of what appears to me the best course to pursue with these unfortunate sufferers.

The following case illustrates the effects of home treatment with as liberal feeding as possible aided by tonics and digestive agents, anodynes to prevent excessive cough, and antiseptics in large doses. In this instance open air living could not be secured.

Mrs. B. A., age 31 came to me March, 1901. She had suffered from a dry cough and some shortness of breath for about six months. She stated that she had had pneumonia 2 years before but had generally been healthy. She had some pain under the scapulae and in other portions of the chest wall especially in damp weather, but had never suffered from rheumatism. There was no hereditary history. The weight normally was 120 lbs., but at this time only 111. She was anaemic, the haemoglobin being only 35 per cent. When I first saw her the pulse was 98 and the temperature 100°. There was considerable dry cough but very little expectoration and there never had been haemoptysis. The appetite was very good but the digestion poor. She was habitually constipated. The urine was normal. The nasal cavities and the larynx and trachea were normal. Upon examination of the chest I found marked dullness at the right apex above the clavicle and moderate dullness extending as low as the third rib. The respiratory sounds were broncho vesicular in the same region and posteriorly similar changes in the resonance and breath sounds extended from the apex 1½ inches below the spine of the scapula; over other portions of the chest the resonance and respiratory murmurs were normal. The heart and abdominal organs yielded no signs of disease. Numerous tubercle bacilli were found in the sputum. Two weeks later it was stated that the patient had taken cold about the time I first saw her and was coughing more than before. In addition to the signs already noted there were feeble respiration and numerous rales over the upper part of the right lung. The pulse was 136 and the temperature 102.4°. I ordered the Ext. of Nux Vomica grs. ½ to improve the digestion, Ext. Hyoscyamus grs. ¾ to relieve cough, Ext. Cascara Sagrada grs. 1-3 for the constipation and the Sulpho-ichthyolate of soda grs. 7½ for its antiseptic properties, to be taken four times a day before eating and at bed time and to be followed by a glass of milk. A week later she reported herself some better and the next week much better. The Ichthyol was increased to 12½ grs. otherwise the same remedies were continued. A week later she reported that she was coughing more, but that there was less expectoration. The appetite was variable but strength better; pulse 96, temperature 99.2°. At this time I was obliged to add a sixth of a grain of Codeine to the prescription and to increase the Ext. of Hyoscyamus to 1 grain in order to moderate the cough. Three weeks

later her general condition was the same but the pulse was found 120, temperature 99.8°, strength not very good. At the next visit 10 days later she reported that she had no cough, felt better and slept well, pulse 96, temperature 99.6°. Ichthyol was increased to 15 grains, Ext. Nux Vomica and Ext. Cascara were each increased to 2-3 of a grain, the Ext. Hyoscyamus was continued at 1 gr. Codeine was discontinued. At the next visit June 7th, temperature was only 95.6°, pulse 90; appetite improved; she had gained 8 pounds and was weighing then 119. Thus the history continues, the remedies being given in essentially the same way; the pulse and temperature varying more or less from time to time for the next 7 weeks, when it is noted that she had been coughing badly for 3 weeks, did not feel very well, pulse 124 and temperature 99.8° but she weighed 120 pounds. There was no material change in the physical signs but there were no rales over the chest. At this time one-eighth of a grain of Allen's Ext. of Cannabis Indica was added to the prescription for relief of cough and she was given a cough syrup containing ¼th of a grain of Codeine, 10 grs. of Bromide of Sodium, and 7½ grs. of Chloral in Cascara Cordial. This was only to be used when the cough was extreme and not to be taken regularly. Three weeks later the cough was much better but the temperature was still 99.4°. Essentially the same medicines were continued. On October 4th, nearly two months later, it is noted that she weighed 123¼ pounds. She slept well, the appetite was fair and there was but little cough, and a month later it is noted that the pulse was 110, temperature 99.9°, but she weighed 128 pounds. At her next visit a month later she said that she had been poorly for some time after the last visit. At this time her pulse was 105, temperature 99.2°, but she weighed 130 pounds. At her next visit 7 weeks later it is stated that she had not coughed at all since the last visit. The signs of consolidation at the right apex still remained though not so marked as formerly. The pulse was 96, temperature 99.4°, but she weighed 134¼, tubercle bacilli still remained in the sputum. I saw her subsequently at irregular intervals varying from 4 to 8 or 12 weeks. She had very little cough, practically no expectoration and felt pretty well. On the 17th of December about 21 months after I first saw her, it is noted that there was no expectoration. The pulse was 90, temperature 98°; she weighed 136; the respiratory sounds were normal on ordinary respiration, but on a forced breathing a few bronchial rales and some harshness of respiration were found over the upper part of the right lung and the respiratory sounds over the lower lobe were feeble. In the latter part of February, 1903, it is noted that she had taken another cold and was not quite so well. There were still a few tubercle bacilli in the sputum. Essentially the same remedies were continued. Two months later it is noted that she was feeling much better. The pulse was 104, temperature 99.6°, weight 136 pounds. At this time she was given Thiocol 10 grains at a dose four times a day which was subsequently increased to 20 or 25 grains at a dose. October 6, 1903, the respiratory sounds at the apex of



the right lung were only about 2-3 as intense as on the left side. Her weight was 135½, temperature 98.8°.

It will be seen that this patient had gained from March 29, 1901, to October 6, 1903, over 24 pounds in weight. She had lost her cough and temperature, she was to external appearances well and she felt well, although there were still evidences of the old trouble in her lungs. I believe that the improvement was mainly due to the effects of the medicine in stimulating her appetite, promoting digestion and preventing excessive cough, but I think that the benefit was also dependent to a considerable extent upon the so-called antiseptic treatment, for she certainly appeared much better when she was taking it than at times when it was temporarily discontinued. She had not been at all particular about keeping in the open air but had eaten fairly well during the course of treatment and had taken palliative internal remedies practically all of the time.

The following case illustrates the benefits of the open air treatment. It was prescribed at first but it was not followed out with any persistence until after she was put to bed with pleurisy last fall.

Miss H. M., age 32 came to me the 23d of July 1903. She had never been very strong and said that during the winter of 1901-2 she coughed for several months but the cough ceased in the summer of 1902. In November of that year she had pneumonia and her cough had continued during the winter but had been much worse since she had taken cold in May 1903. She stated that she had always taken colds easily and that she had a prolonged attack of malaria several years ago. There was no hereditary predisposition to disease. At the time she called to see me, she was coughing a great deal so that she was kept awake at night and was expectorating two or three ounces daily. She was very weak and her flesh was reduced to 96¼ pounds; her average weight had been 107. She had a very poor appetite and much thirst. She was anaemic, the haemoglobin being only 45 per cent. The urine was normal. She had had night sweats for about 6 months. I found her pulse 132 with occasional intermissions and a temperature of 103° F. at 11 o'clock in the morning. She was hoarse at times indicating some slight involvement of the larynx but there were no signs of disease either in the nose or throat excepting peculiar pallor. At both apices, more marked upon the right side, there was dulness with broncho vesicular breathing and a few subcrepitant rales as low as the first rib in front. On the right side, posteriorly, similar signs extended an inch and a half below the spine of the scapula. There were also a few indistinct rales at the left apex and the respiratory sounds were only about ¾ as intense as on the right side. The heart was of normal size, action rapid and occasional intermitting. There were no signs of disease over the abdomen. Numerous tubercle bacilli were found in the sputum.

She was given grs. 1/3 of the Ext. of Nux Vomica, grs. 3/5 of the Ext. Hyoscyamus, grs. 1 of Muriate of Berberine and grs. 3 of Ingulin,

four times daily. When she called a week later her pulse was 132, temperature 100° F. She had been in bed most of the time since her last visit. The cough and expectoration had been very troublesome especially at night. At this visit the Hyoscyamus was slightly increased the other remedies continued and she was given 10 grains of Thiocol three times a day after eating followed by a glass of milk. Two weeks later she reported that she was better, but her pulse was 134 and temperature 101½ at 11 o'clock in the morning. Besides her usual meals she was taking two quarts of milk and one egg daily. Three weeks later it is noted that she had been troubled with nausea and diarrhoea so that all medicines had been discontinued, according to my instruction that she should take nothing that disturbed the digestion no matter how much I would like her to have it. At this time the pulse was 120, the temperature only 99.6. She had practically recovered from the digestive disorder and was again taking two quarts of milk daily, but she weighed only 94½ pounds having lost two pounds since the beginning of treatment. The Thiocol was temporarily suspended, other remedies were continued about as before. Two weeks later she had gained nearly two pounds. Her digestion was good and she was taking two quarts of milk and one egg daily in addition to her regular meals which were not very large. At this time I ordered that 15 drops of guaiacol be rubbed upon the chest twice daily to relieve pain and fever. She was given Brucia Phosphate 1/12th of a grain, Ext. Hyoscyamus ¼ of a grain, Allen's Ext. Cannabis Indica 1/6th of a grain, Ext. of Digitalis ¼th of a grain with Papaine and Diastase each two grains before each meal and at bed time. At the end of the week she reported herself much better. Palliative remedies were continued and she was given Thiocol 15 grains three times daily after eating and followed by a glass of milk. She continued to gradually improve and two weeks later on the 29th of September, it is noted that she weighed 99½ pounds, but the pulse was still 132, temperature 99.5. She continued with essentially the same remedies though ¾ of a grain of the sulphate of spartain was substituted for the Ext. of Digitalis and a month later it is noted that she was taking 25 grains of Thiocol three times daily, two quarts of milk daily and weighed 106 pounds. Her pulse and temperature remained about the same. About this time she again had disturbance of the stomach but she did not attribute it to the medicines. At the next visit her pulse was 120, temperature 100. The remedies were continued but shortly afterward she had an attack of pleurisy for which we put her to bed where she remained about 4 weeks. During the winter she was seen at her home occasionally, by Dr. E. L. Kenyon. Although she had been directed to keep in the open air all of the time, she had not carried out the instruction until she was seen at her home when the pleurisy developed. It was found that poverty made it very difficult for her to live in the open air as it compelled the rest of the family to do the same, however, afterward she had her windows open continually night and day. There was

no porch so that she could not sit out of doors. She lived in a flat heated by steam by which the temperature was moderated during the day, although it sometimes fell very low during the night when the steam was shut off. After she went to bed with the pleurisy she took merely the tonics and the palliative remedies for cough, but discontinued the Thiocol. She continued the forced feeding most of the time diminishing it a little, occasionally when the stomach was disturbed. During the last week she was in bed the temperature ranged from 98.2 to 99.6. She was then allowed to be up a short time each day. During the next two weeks the temperature usually remained normal but on three occasions was found above 99, once reaching 99.4. In addition to the milk it was directed that she take 6 eggs daily, but the price of eggs was so high that she was not able to do it. On the 3rd of January 1904 it is noted that the dullness at the right apex remained practically the same as at first but there were no rales over any part of the chest. She was gaining some strength but still had a pulse of 132. All internal remedies had been discontinued for about 3 weeks but stomachic and cardiac tonics, with the Ext. of Hyoscyamus and Cannabis Indica as anodynes were again ordered and three weeks later it is noted that she had improved in strength; there was less cough and the digestion was good. The highest temperature during this time had been 99.2. She formerly complained of her feet being cold, but now they kept warm. The latter part of February she thought that she had taken cold and was coughing a little more. She was living in the open air all of the time taking two quarts of milk daily and was in bed most of the time. She weighed 111¼ pounds. She said that on account of keeping the windows open at night she had frosted her nose two or three times during the winter. The physical examination of the chest showed that the signs of consolidation were somewhat diminished at both apices. I last saw her on the 4th of February, when she stated that she felt very well but her pulse was 140 and temperature 99.2. Her weight was 111 pounds, a gain of over 15 per cent since she first came under my care.

During the first three months of the treatment she had relied upon medicines and nourishment but had not kept in the open air. However, she had gained about 10 pounds in weight. During the last 5 months of treatment she had remained in bed most of the time because it was too cold for her to be up. She had not received any Thiocol but she had taken tonics and palliatives most of the time with abundance of food, and she had lived constantly with her windows open. During this time she had gained 5 pounds in weight and had coughed very little. The last time I saw her she was very much better than 8 months previously so far as the general appearance was concerned. The pulmonary signs were less but the pulse was still rapid.

## (2) Removal of a Pin From the Lung Per Vias Naturales with Bronchoscope and Forceps.

**E. Fletcher Ingals:** A young lady suffering from a foreign body in the lung was recently

referred to me March 23d, by Prof. Senn. She stated that nearly a year ago she had drawn a large glass headed pin into the trachea and that it had caused severe cough, expectoration and at times choking spells and pain. About six weeks previously Dr. Allison of Brownwood, Texas, had done tracheotomy, but as it was impossible to find the pin he had closed the wound, which had healed quickly. A radiograph taken at the Presbyterian Hospital had located the pin, head downward in one of the divisions of the right bronchus. I operated the next day, assisted by Drs. G. H. Kennett, A. M. Corwin, O. T. Freer and N. P. Colwell. I first administered gr. 1-60th of atropin hypodermically, to check secretions, then gave chloroform and when anaesthesia was nearly complete, sprayed the larynx and trachea once with a solution of cocaine 10 per cent and suprarenalin 1 to 4,000 guarded by atropin, strophanthin, carboic acid and oil of cloves as in the solution I use for anaesthetizing the nares. I then introduced a Killian bronchoscope, 34 c.m. in length and 8 m.m. internal diameter, through the larynx down into the right main bronchus and one of its larger branches. The parts were illuminated with a small Chicago Electro Appliance No. 1 (cold) lamp with carrier 33 c.m. in length, that I had made for the special purpose. The secretions and a very little blood were repeatedly swabbed out with cotton and the parts touched with the same solution of cocain. I carefully explored the three branches of the bronchus and with a blunt hooklet searched for the pin which I did not succeed in bringing into view for about three quarters of an hour. Finally with the hooklet I brought it across the end of the tube and demonstrated it to Prof. Senn and to E. J. Senn, S. A. Friedberg, J. F. Dolamon, E. L. Kenyon, to my assistants, and to several other physicians who were present. I then caught it with Killian's tube forcep and tried to bring the end of it into the bronchoscope but although I released it several times and manipulated it in various directions, I could not succeed, therefore, I finally grasped it firmly and drew it and the bronchoscope out together. In doing so the pin was bent to an acute angle near the head, and it must have caused some injury to the parts evidenced by a little soreness the next day, but this disappeared in a few hours. There was a temperature of about one degree two or three hours after the operation, but no fever subsequently. Three days later she returned to her home in Texas. The pin was of brass 4 c.m. long and the glass head measured 5½x8 m.m. in diameter. It was apparently lodged in a division of the bronchus passing downward and backward, but I was unable to see the head at all and could see nothing of the pin itself until I swept it across the end of the tube with the little blunt hooklet.

**Dr. Otto T. Freer:** Dr. Ingals has mentioned me as having been present at the operation he has described. I admire very much the courage and perseverance he displayed during its performance, but the simple description he gave of the procedure does not give an adequate idea of its difficulties. The position is a



strained one for the surgeon and the operation is so new that to undertake it justifies some trepidation. What struck me was the safety with which it was done, for with the tube once introduced past the glottis the patient breathed so satisfactorily that the search for the bronchus containing the pin could be done with deliberation.

The fact that the patient had a long and flexible neck aided the passage of the bronchoscope, but even in the case of a patient with a short neck, if the tube be introduced in front of the upper bicusps at the side of the mouth, it may be made to enter the trachea.

Dr. Ingals' method of illumination is a great improvement on the Kirstein light and the beautiful view of the bronchi obtained with it was astonishing to one who has never looked into them during life. Nevertheless the Kirstein light answers the purpose well for when burning brightly enough it enables one to read fine print at the bottom of the tube. Its chief objection is that it lights up the walls of the bronchoscope so much that the field beyond appears dark by contrast. This difficulty is obviated by Dr. Ingals' light, whose slender stem does not materially interfere with manipulations in a bronchoscope of ordinary size. During the operation a great deal of wiping is needed and an assistant has to make swabs continually.

I wish also to say a few words regarding the paper on tuberculosis. Recent work, especially that of Maragliano has shown that recovery from tuberculosis depends upon the acquirement of immunity to the tubercle bacillus and that the fatal progress of the disease is due to lack or loss of this quality. The extensive statistics of Naegeli of Zurich, based on autopsies, shows that the age of the individual is one of the factors that has an influence on his resistance to tuberculosis. Thus Naegeli proves that though by the time people reach middle age practically all persons possess tubercular lesions acquired during their lives, yet the great majority of these foci are latent and non-progressive because the majority of individuals is relatively immune to tuberculosis and its advance is therefore not possible. Naegeli shows that in a general way, the younger the individual infected, the less immunity does he possess to tuberculosis and the more likely is the disease to extend and become fatal. Thus, though the number of bodies of children showing tubercular lesions, was small, the disease in them was nearly always lethal, while in older people, though many more bodies were found infected, in a proportionately much smaller number was the tuberculosis the cause of death. Thus though immunity to infection with tuberculosis hardly exists, successful resistance to its advance increases with years and is a natural possession of the majority. This natural immunity may be so great that it is not overcome by serious depreciation of health, loss of weight, poor nutrition and other things well known to often lead to actively progressing tuberculosis. On the other hand certain vigorous persons in spite of blooming health offer but slight resistance to tubercular infection, resembling guinea pigs in their tendency to the

disease. The large number of persons who acquire tuberculosis because of faulty manner of living and consequent depreciation in health and not because of a strong predisposition to it are the hopeful patients, whose immunity may sometimes be restored by hygienic measures, open air treatment and forced nutrition. It is not easy to fortell the patients power to establish immunity, hence the great diversity in the results of treatment, some persons with but moderate subceptibility to tuberculosis readily acquiring full immunity, from merely hygienic measures and thus arresting the disease, while others, in spite of gain in weight and health for a time do not become immune and cannot stop the advance of the tubercle bacilli.

As an example, I cite the case of a young woman with florid phthisis with high fever and emaciation who, by means of home treatment, with her windows open in winter for fresh air, gained beyond her normal weight and became free from fever, with improvement of the physical signs, but who after some months, though the same favorable conditions continued succumbed to a malignant recurrence of the disease, as immunity was not established.

As an aid to the creation of immunity I have had good results from the use of Dr. Carl Von Ruck's watery extract of tuberculin. The effect in one case seemed especially brilliant. A girl of twenty had rapidly advancing tuberculosis of the right lung with involvement of the upper lobe to the fourth rib in front, high hectic fever, sweats, and rapid emaciation. Nitrogen gas collapse of the lung and hygienic treatment were tried without benefit for four months. At this time the use of tuberculin was begun and within three months all fever had subsided, the pulmonary signs had become entirely normal and for two years now the patient has remained free from disease. Others whom I have induced to use tuberculin after the manner of Von Ruck have related to me similar experiences.

In spite however of some favorable results the majority of individuals manifesting, progressive tuberculosis are not able to become immune to the tubercle bacillus no matter what means are employed and the disease goes on unchecked, but the few hopeful cases that do become resistant enable us to hold out hope for all cases not too far advanced.

**Dr. A. H. Andrews:** The case reported by Dr. Ingals reminds me of one which I saw in 1896. The patient, a young man, came from Minnesota. Examination of his lungs showed well-marked symptoms of tuberculosis, and the microscope confirmed the diagnosis. There was elevation of temperature, in fact, every indication of tuberculosis. He could only stay in the city a few days. He went up to one of the Northern suburbs, and on his return called at my office complaining of sore throat. He expected to take the train that night for his home in Minnesota. Examination of his throat showed symptoms of diphtheria. This was confirmed by microscopical examination, and he was placed in one of the isolation wards in one of the hospitals here. The diphtheria pursued the typical course for three days. Antitoxin was not used. At the end of that time the throat trou-

ble cleared up, and much to my surprise, his temperature, which had been uniformly high, became normal; appetite improved; cough improved; and a week later, when I examined him for tubercle bacilli, none were found. I was surprised to see the case continue to improve. He remained in the city four weeks, during which time I examined the sputum frequently and after the attack of diphtheria I never found tubercle bacilli. Specimens of sputum were sent to me, first, every week, then every two weeks, and later every month, for six or eight months, and I was unable to find the tubercle bacillus. I heard from the patient between one and two years ago; he was teaching school, and there has been no return of the tuberculosis.

The question arises whether the toxins of diphtheria may not have been destructive to the tubercle bacilli in this case. I am sure, that the medicine which was given could have had no such effect upon the bacilli. There had been no open air treatment; no treatment that could have been expected to bring about such a result as was attained in this case.

I would like to ask if such cases have fallen under the observation of any of the gentlemen present. I have reported this case to a number of practitioners, and they have informed me they have not seen anything like it. This is the first time I have reported the case in a Society meeting. Later, I expect to gather all of the data and make a formal report of this interesting case.

**Dr. Homer M. Thomas:** A distinguished practitioner of Chicago once said to me that when a physician is summoned to a mortal case, the patient dies; that when the disease is not mortal, the patient recovers, and I am an advocate and an adherent of that pessimistic belief. I, probably, have experimented with as much enthusiasm as any physician in this city with reference to the various methods of home treatment for the cure of tuberculosis, and after alternating between varying degrees of optimism and pessimism, and after a retrospect of some years of work along this line, I am led to believe that our knowledge of the physiological condition that predisposes to the formation of connective tissue in the lungs or in the throat, which, as you know, is the process by which all tubercular foci are finally arrested and cured, is entirely inadequate. Being inadequate, we have no definite therapeutic or pathologic basis upon which to rest any system of therapy that can in any sense be conclusive. You all know how the Shurly-Gibbs treatment, with its iodine and gold injections, and its gas inhalations, was received by us with great enthusiasm. We have all had experience with the open air or outdoor treatment of tuberculosis, and none believe in it more than myself. We have run the gamut of antiseptic treatment, and we have tried antiseptic inhalations. We have also tested the value of beechwood creosote, iron products, thiocol, and what-not; yet today, it does not seem to me that in the light of the knowledge we have of the pathologic and histologic properties of the tubercle bacillus, we can accomplish very much, and certainly no germ has been more thoroughly studied and its characteristics more

definitely known than the tubercle bacillus. It seems to me, that we are not advancing in our knowledge of the methods which tend to control tuberculosis. I think the outdoor treatment of tuberculosis is as rational as any, and the coincidence of its use and improvement in the cases that have been so adequately described is very fortunate, and makes one optimistic. But I question whether we have a substrata of pathologic knowledge by which today we know tuberculosis is cured; that is, as to what produces that essentially constructive process in the system which tends to the elaboration, production and extension of connective tissue formation. In the absence of that knowledge, I must speak from a somewhat pessimistic standpoint, feeling that the treatments that are advanced are more empirical than rational, and therefore, broadly speaking, the cures are more coincidence than they are the necessary results from any therapeutic remedy or remedies we may use.

**Dr. F. G. Stubbs:** I was fortunate in seeing the bronchoscope used several times last winter by Chiari and others and perhaps it would not be out of place to say how it was used, differing a little from the method spoken of by Dr. Ingals. I assisted Hajek in using the instrument three times. The patients were subjected to local anesthesia. The throat was well cocaineized, as well as the larynx; the bronchoscope was passed into the larynx, and a sound, with cocaine on a pledget of cotton at the end, pushed on down the trachea, and that was anesthetized. The operator waited a few minutes, and again applied cocaine, so that ultimately the whole respiratory tract to the bifurcation of the trachea was thoroughly anesthetized. In one operation where a small growth was removed for diagnostic purposes, the patient stood the tube in position for fifteen minutes. The patient sat on a low stool, while the assistant sat on a chair at his back, with his knees pressed into the patients back, so as to throw the shoulders markedly backward. The head was drawn further backward toward the assistant's chest, and with the patient in that position the tube could be passed easily. The operator stood at the side of the patient, so that he merely had to look down while manipulating. In some cases it caused quite a little coughing until the patient was well anesthetized. The instrument used was a modification of the Killian; I do not remember the name of it. But the light was very much more powerful than the one from the instrument shown by Dr. Ingals. The electric lamp was about opposite the handle of the Killian, and the light reflected in at right angles by the use of the mirror. It illuminated the whole field brightly, and at the same time gave the full diameter of the instrument for operative measures. In two cases I observed the patients were on the table, with head thrown back, as Dr. Ingals has just described. It seems to me, for an extended operation it would be well to place the patient under the influence of a general anesthetic, as by so doing we do not have any compunction about taking a longer period to do the operation. It is much better than to have the patient fully



conscious, for it becomes very painful in a few minutes for the patient to accommodate himself to the strained position.

**Dr. Joseph C. Beck:** I want to congratulate Dr. Ingals on the success of this operation, I believe it is better to use general anesthetic and not local as Dr. Stubbs has mentioned. When I was in Freiburg I saw many attempts under local anesthetic without result.

With reference to the paper concerning tuberculosis, I remember very well that Dr. Babcock always used to begin his lectures a long time ago by saying, "Gentlemen, I am going to talk about a disease which is curable in the rich and well-to-do people." And so, it is in the treatment of tuberculosis, many of the remedies the doctor described are too dear for the average patient, and such patients cannot have the things and facilities at their command that the well-to-do people have.

The open air treatment of tuberculosis is very interesting. I have watched it in places where the patients are sent in this country and abroad, as, for instance, in California or in Colorado, and a couple of weeks ago I returned from a trip to Asheville. While there I visited the Sanitariums of Von Ruck and Dunn. In those institutions the open air treatment is carried out with the aid of injections of tuberculin. Dr. Dunn informed me that he rarely has a case but what gets injections of tuberculin. The reports he made to me were very gratifying. He has had splendid success. I saw some of his patients and they looked well. They get very little medicine. The tents are built on the style as in Ashland in Germany, and the patients live in these tents in the winter as well as spring and summer. When the weather is bad, they go to the main buildings. The only drug that they seem to be using universally is guaiacol.

**Dr. Herman Stolte,** of Milwaukee, Wis.: As to the remarks of Dr. Freer regarding the treatment of tuberculosis by tuberculin, and the good results he obtained, I will say that my experience with this treatment is as follows: Shortly after the recommendation of the tuberculin treatment in 1892 by Koch, nearly thirty patients of the tuberculosis ward of the large military hospital in Strasburg were entrusted to my care in order to try the tuberculin cure according to Koch's method. The recommended small initial doses of 1/10 milligram produced a rather strong reaction. I at once reduced the dose to 1/30 milligram. The same small dose was injected as long as there was any reaction, such as a small rise of temperature, 99° to 99.5°, general feeling of discomfort, and local reaction in the surrounding sphere of the diseased part of the lung manifested itself. When the body did not show any local or general reaction, the dose was very slightly increased. In the course of five or six months the final dose of five to six milligrams was reached.

General medication was not used except a sedative when the cough was distressing, or a stimulant for the patient's appetite; but physical treatment, such as ablutions very frequently, open air, and an abundance of proper nourishment, were freely used. The cure was

tried only on selected patients exclusive of those who showed destruction of the lungs to a great extent, but, on the other hand, patients were treated who manifested the first signs of consolidation and catarrh of the apices. All the patients showed a greater or less amount of tubercle bacilli in the sputum, some to the greatest extent, and many of them suffered from night sweats. In the course of the treatment one could observe signs of local tuberculin reaction, such as an increase of the dull area, and also of the clicking rales around the primary zone of the disease. But there was a gradual recession of the diseased area. Of thirty cases, four were absolutely cured, so that there was positively no physical or bacteriological sign of the previous disease, although two of these cases had acute progressive consumption. In two of the cases I had the opportunity to verify the cure after eight years. The other two cases I did not see afterwards. Of the other fifteen cases, all showed marked improvement in every respect, such as increase of weight, decreased amount of sputum, and a decrease of the physical signs of the disease. Of the remaining cases, one did not show any improvement. These marked results were in my opinion due to the creation of an immunity against the tuberculous virus by tuberculin; also to some extent due to the use of the applied general treatment physically, which is prone to improve the metabolism of the body. I have experienced that the best results are obtained by using the tuberculin treatment at home, or in a sanitarium, for a period of about five months, and then discontinuing the tuberculin treatment, and sending the patient into the woods or mountains for two months to obtain a plain open air treatment, and on his return recommence the tuberculin treatment, beginning with larger initial doses, according to the reaction.

**Dr. Ingals** (closing the discussion): There is very little to add to what has been said regarding the treatment of tuberculosis, but it is gratifying to note that we are all practically agreed about it. There are none who would vaunt any specific treatment, but I judge from what has been said that all are in favor of doing the best we can with the means at our command.

With these patients it is especially important to maintain the appetite. This can be done partly by the open air treatment, and there is no question that certain internal remedies often have a similar effect.

It is important, too, to check excessive cough which keeps the patient awake a large part of the night, and is often the immediate cause of high temperature. High temperature prevents patients from eating, so that remedies for checking cough are indicated, provided we do not use opiates, which nearly always do harm. Last summer I visited two of the best sanatoria in this country. When being shown over the second one by the superintendent, I was introduced to the cook, a large, healthy looking man, who had been a patient at the first, some years previously. I remarked to him, "This sanitarium is about as good as the one at ———." He replied, "It is better." I asked "Why?" He replied,

"There, they were coughing all night long; here they do not cough." In this sanitarium they carry out the open air treatment and good feeding as well as can be but the patients are also given anodynes to quiet. We must not be discouraged in treating these cases, although with many we cannot help being pessimistic about the ultimate results. There are many that can be cured or that will get well if we give them a fair chance, and they must be encouraged for the patient who gives up is lost. I stated that sixty-six per cent of the cases of pulmonary tuberculosis get well, and I have no doubt the percentage is even larger than this as stated by Dr. Freer but the majority of those who get well have had the disease so lightly that they have had very little to do with physicians.

I was interested in Dr. Stubbs' statement about the use of the bronchoscope by Hajek and Chiari. It appears that the illumination they employ is better than the Kerstein lamp, and it might sometimes be better than the one I have shown. The illumination with this little lamp is much better than I can get with Kirssteins.

Dr. Freer referred to the ease with which my patient breathed after the bronchoscope had entered the trachea, but this is not always the case; for usually the patient would get very little air through the glottis about the tube and when the instrument has been passed into the bronchus very little if any air could reach the opposite lung through it unless special provision was made for it as directed by Killian through an opening on the side of the instrument above its end. Instead of a single opening I shall have about 35 small holes, each one and a half m. m. in diameter, drilled through my bronchoscope from five to ten centimeters above its end so that when it is passed into the bronchus, the patient will get as much air through these openings as through the end of the tube.

Dr. James T. Campbell read a paper entitled **The Subcutaneous Injection of Paraffin for the Correction of Nasal Deformities.** (Report not furnished.)

#### Discussion.

**Dr. F. E. Ingals:** The author of the paper reiterates a statement that I have seen before to the effect that when paraffin has once been injected its position cannot be changed. I think this an error although I have no doubt that generally speaking, it is correct. In one of my cases, the paraffin accidentally passed down the side of the nose, and made an undesirable prominence that I think I corrected at a subsequent visit. I kept pads of gauze on the nose soaked in hot water at a temperature of 135° for fifteen or twenty minutes, then by manipulation with the fingers, I got rid of the swelling and must have moved the paraffin, which had a melting point of 108° F.

**Dr. A. H. Andrews:** I think it is a good plan to report unfavorable results as well as favorable ones. I had one case in which a deformity of the nose was corrected beautifully, and everything remained satisfactory for probably six or eight months; then the patient, a young lady, had a little pimple on the nose. She gave it no attention, and it apparently opened internally, that is, into the paraffin. I saw her

a few months later, when there was evidence of infection in the mass of paraffin which had been injected. A number of particles of paraffin came out before I saw her, and I removed a number which were at the site of the old pimple. I have not heard from her. The infection was unfortunate, and I do not know what will be the outcome of the case.

**Dr. P. J. H. Farrell:** There is one point about the use of paraffin which the author did not mention. I have found that in using paraffin in the correction of nasal deformities it is a mistake to take more paraffin into the syringe than you require, over correction is an annoying accident that it is well to provide against. Again in withdrawing the needle you are liable to draw a thread of paraffin out through the puncture in the skin which will keep it open and leave a small scar. In case there should be infection, there is no difficulty about the treatment. It is the same as other cases of infection.

I injected 60 grains of paraffin in one case and transformed a very ugly saddle back nose into an attractive Grecian style. The patient, a very noted professional athlete and a champion boxer celebrated the improvement in his personal appearance by a very liberal indulgence in intoxicants that night and for three succeeding days. When he reported to me on the fourth day, the nose was much swollen and some pus had formed. I evacuated the pus, applied ice cold boric solution. I found the following day that it was necessary to remove part of the paraffin to effectually get rid of all the pus. Recovery was prompt, and I filled in the cavity made by the removal of part of the paraffin with a second injection and the patient had no further trouble. The operation made possible a new and very remunerative career for this patient. He now draws a large salary upon the stage, which was not possible with the repulsive nose. This "paraffin nose" has stood the test of many hard blows without injury.

**Dr. Norval H. Pierce:** Probably the greatest danger from paraffin injections is embolus. If we enter a vein in making these injections we will get blood. I am having constructed a syringe which I think will obviate this danger. I do not know how it is going to work, as I have not had any practical experience with it. However, I believe it is practical. (Dr. Pierce drew a model of the syringe on the blackboard.)

**Dr. O. J. Stein:** The point brought out by Dr. Pierce has been in my mind frequently in doing this operation. I try to obviate this possible danger of embolism by inserting the needle, unscrewing the barrel, and seeing if there is any flow of blood from the needle. If there is none, there is no objection in screwing the barrel on again and injecting the paraffin. I have never encountered any trouble in having the needle full of air or in injecting anything else. I can see if anything comes out of the needle, and if nothing comes out, then I screw the barrel on and press the piston home.

**Dr. Joseph C. Beck:** I rise to depreciate this method of using paraffin for the reason that I have used it in a good many cases and speak from experience. I reported to this Society a case of defect of speech with shortening



of the antero-posterior diameter between the velum and post wall of pharynx, and since then Dr. Gradle complimented me on the result obtained. I want to report that in that case, which many of you saw, the paraffin has sagged almost one-quarter of an inch in a year. Paraffin does not stay where you inject it, particularly under mucous membranes. I depreciate the importance of using paraffin in so many of these deformed noses, because it is so easy, when many men can and would do intranasal operations for the relief of stenosis, and in some way straighten the nose, whereas the injection of paraffin under the skin is so easy that many men are led to use it when other measures could be undertaken, and it does not do away with the intranasal obstruction. In such cases the paraffin does harm.

I want to report briefly the use of paraffin in a case of complete resection of the upper jaw, with restitution of the shape. The patient was a young woman, twenty-four years of age, who ten years previously had the upper jaw resected for sarcoma, with no recurrence of the disease. I injected the case about fourteen times. Once or twice I made the injections with great caution, having in mind the danger of embolism. I inserted the needle, then waited to see if any blood came out, after the manner recommended by Gersuny in the use of paraffin. No blood having escaped, I injected the paraffin under the mucous membrane of the cheek and never had the least trouble. I do not say that embolism cannot occur.

**Dr. Campbell** (closing the discussion): With reference to the remarks of Dr. Beck, notwithstanding the fact that paraffin is injected subcutaneously, I see no reason why the shape of the nose should not be improved or altered, even if there is nasal obstruction or stenosis, this can be overcome later, or it can be done before the paraffin is injected.

In regard to the danger of embolism from injections of paraffin, referred to by Dr. Pierce, if it is used with the melting point at 112° F. the danger is comparatively nil.

Dr. Pierce also spoke of the danger of injecting the paraffin into a vein. If one injects it subcutaneously, and in the mid-line there is no danger of getting into a vein.

Dr. Farrell spoke lightly of injecting too much paraffin at one time, saying that it is easy to rid of the excess of paraffin if it cause irritation. It is much better however to inject a small quantity at a time rather than try to overcome the deformity at one injection.

**The Dunbar Method of Treating Hay Fever.**

**Dr. O. J. Stein:** I simply want to show you Dunbar's serum and powder, which probably some of you have seen. I have nothing to report except that I have had this serum since December of last year. Dr. Dunbar very kindly sent me a small quantity of it. Recently he sent me some more, through one of the manufacturing houses, and I have had occasion to use a little of it in an experimental way. But I am not ready to make any official report on the few cases I have had, so I will only show you what I have here. At the same time,

he sent me a little of the rye toxin to experiment with in the early forms of hay fever, or the June form, as it is frequently called. I received the antitoxic serum too late to use it in any hay fever cases, and had to confine myself entirely to experimental work with the toxin. This small vial contains some toxin of the rye pollen; and this vial (indicating) contains the liquid antitoxin produced from the Indian corn. In a third vial we have the powder form of the antitoxin. The liquid is preserved with carbolic acid. For the use of the liquid antitoxin there is a small vial, with it a tube containing a pipette, in which the antitoxin is poured, and a small amount is taken out as required. There is no danger of contaminating the original bottle. I will say that I find a great many physicians under the impression that it is used the same way as any other antitoxin, namely, injected hypodermically, and the patient visits the physician once or twice, receives an injection, and that is all that is necessary. But it is quite the contrary. The patient is furnished with this remedy and uses it himself. He buys it at the drug store, where it is for sale, and carries it around with him, and uses it constantly.

The efficacy of the remedy lies in its early application; therefore, it is more of a prophylactic than a curative remedy. It is not a remedy to be applied during the height of an attack. I do not believe any of the experiments made will show that it has relieved an attack of hay fever after it has been fully established. If used when the first signs or symptoms of hay fever manifest themselves, as tickling in the corner of the eye, in the nose, intense itching of the roof of the mouth, lacrimation, etc., by the patient insufflating a small amount of the powder in the nostril, or dropping one or two drops of the fluid under the lower eyelid, or dropping a few drops into the nostril, it is said to prevent the attack. But it is to be repeated as soon as there is any sign of return of the early symptoms.

**Dr. Beck:** I would like to ask Dr. Stein where this can be had?

**Dr. Stein:** I got the last quantity from Merck. I do not know whether Merck handles it or not. I have the rye pollen and powder; the other I obtained from Dunbar direct. His last letter to me indicated that he was going to make some arrangements with some manufacturer to handle the preparation, because he asked me to furnish him the addresses of some manufacturers.

**Dr. Henry Gradle:** According to the latest report, Dr. Dunbar promises it will be put on the market the coming year, but he does not state who will handle it.

**Dr. Otto T. Freer:** I have seen the report referred to by Dr. Gradle, it is in the *Berliner Klinische Wochenschrift*, and is written by Drs. A. Luebbert and C. Prausnitz. Dr. Dunbar's Antitoxin is being made by the firm of Schimmel & Co., in Miltitz, near Leipzig and will be marketed under the name of "Pollantin." The authors refer to the fact that the fluid antitoxin is liable to be contaminated by the patient and

hence to decompose as it contains only  $\frac{1}{4}$  per cent of carbolic acid. For this reason a powdered antitoxin mixed with milk sugar is recommended in its stead as a snuff. When antitoxin is used prophylactically in the morning before the daily onset of the hay fever irritation and consequent running of the nose, they found the beneficial effect most certain and marked. When the nose discharges freely the antitoxin has but little effect as there is no absorption. When the serum was used as they suggested, a good result was obtained in most cases.

**Dr. E. F. Ingals:** About the first of last October I received quite a package of this antitoxin from Merck, and I think they will send me some more if I ask for it. I used it I think in four cases with the after-clap of hay fever. One of them thought it helped considerably, but the others said it did not seem to make much difference. I hope to try it thoroughly the coming season.

#### CHICAGO NEUROLOGICAL SOCIETY.

A regular meeting of the Chicago Neurological Society was held at the Sherman House, January 28, 1904, with the president, Dr. Sidney Kuh, in the chair.

**A case of Paraplegia** was presented by Dr. Charles H. Lodor. Male, 42 years of age. Up to a year ago he was able-bodied and a hard manual laborer. He has been a janitor and engaged in hard labor since 18 years' years of age. Until a little over a year ago he had nothing the matter with him, so far as he recognized, save an accident some years ago, in which the bridge of his nose was broken. He has a good heredity; his father, 84 years of age, is still living; his mother died in child-birth. Two sisters are living, and one sister died of supposed spinal trouble. A year ago he began having cramps, and thought he had rheumatism, as his legs were getting stiff. With this stiffness he noticed a very strong inclination to rise on his toes, and if walking fast, would grow rigid. This became worse when he got cold. For the past 12 to 14 months this has been progressing until now he has very little motor force in the legs and is beginning to lose power in his arms. I tested him all over the skin surface, and there is no disorder of sensation. For one in his station, he is unusually acute; can tell warm water and cold, and the slightest touch anywhere on his body, and can localize it. He can pull his shirt over his head and not fall. With closed eyes, he can place his index finger on tip of his nose. There is no trouble with the eyes. The reflexes are so increased that a blow on the patella is liable to produce disaster. A week ago he got into the bath tub and was left too long, and became so rigid he could not be bent, but was carried like a bar to his bed. Tonight in bringing him up here he got so stiff he had to be carried. (The patient was unable to cross his legs, and on attempting to walk a few steps, raised on his toes and could go no farther).

While the hands show some loss of power, still his grip is good. He has ankle clonus. There is not a particle of tremor nor staggering. The eyes and all cranial nerves are normal. The

peculiar thing about the case is the rapidity of the onslaught. There are no trophic symptoms, and there has never been any pain. There is no paraesthesia. He has had cramps that were painful and would draw the legs up, he says. He passes water all right, and the vita sexualis is still present. There is no exaggeration of the upper reflexes. He has had no gastric symptoms and has good appetite all the time.

There is no heredity and no specific history. The two features are the rapid onslaught and the spasticity. He can be stood on his toes very readily, and only relaxes when fatigue comes on. So far as I can now see, I am presenting a case of true spastic paraplegia, a paraplegia from involvement of the motor tracts alone. Of the five cases of supposed spastic paraplegia which I have seen long enough to follow them out personally over prolonged periods, two were certainly mistakes in diagnosis, and the others are still under question; and we have so few records of pure cases of spastic paraplegia that have come to a post mortem that all such cases must be held under judgment until proved, as many have been shown to be multiple sclerosis or mixed.

In the month I have had this man under observation, I am sure the symptoms have shown advancement. In fact, so rapid has been the progress that the history rather speaks against the lateral sclerosis theory, if there be such a thing. He has had no days of improvement.

Dr. Patrick asked whether the progress had been uniform, or if at times he grew rapidly worse.

Dr. Lodor replied that so far as he could tell, it had been progressive, but very rapid. It has been over fourteen months since the patient recognized the fact that he was losing power. He has grown steadily worse, and not by separate intervals.

Dr. Kuh asked whether it had been very nearly equal on both sides. Dr. Lodor replied that it had been worse on the right than the left side. Dr. Kuh asked if it had begun on the right, to which Dr. Lodor replied that he had been unable to elucidate that point.

**Dr. Patrick:** There is another possibility in the case. I certainly should not wish to make a positive diagnosis; but for nearly two years I have been rather particularly interested in myeline degeneration; not lateral sclerosis of a general type as occurs in paresis and without it, but the subacute or more rapid forms, such as occur in the course of pernicious anemia, etc., and which are now known to occur without anemia, or in the simple forms of the same. I do not know, but I think I have seen a good many—I mean eight or ten cases in the past year and a half; cases of compound degeneration; cases that run their course in one year to three years. I cannot say of my own cases that they run their course in three years, for I have not followed them up, except the fatal ones, which were not so long. But similar cases have been known to run as long as four years. The lesion in these cases is a compound lateral and posterior degeneration, more rapid than the extremely chronic cases like tabes and



multiple sclerosis, and not so rapid as acute myelitis and inflammatory lesions, but sufficiently rapid for post mortem to show disintegration of the nerve fibres in parts of the affected areas by the Marchi method. The cases vary exceedingly in symptomatology. Some seem to begin in the lateral columns and some in the posterior columns, so that in the beginning the case may look like tabes, and in other cases it may look like spastic paraplegia. Ultimately the symptoms show the involvement of the columns in a primary attack. One should not speak of primary and secondary in this relation except as regards time. I think this is a possibility in this case, though the absence of inco-ordination would militate against it.

Dr. Lodor said: No case had been recorded that did not show some sensory disturbance early, or concomitant with the motor and that he did not think that objectively sensory symptoms are discovered at first, but nearly always subjectively.

Dr. Patrick said the possibility ought to be mentioned, because the case is unusual, and we must not bind ourselves too closely to types. It is only two years that he had been acquainted with these cases as he should be, and he now recognizes cases that he saw before and which puzzled him, and he did not make a diagnosis because there was no pernicious anemia present. In two cases in which he made blood examination he had not the courage to go on because there was no pernicious anemia. Because the picture is not complete we should not be afraid to go on and make the diagnosis. He would not say that the above is true in this case.

Dr. Dewey asked whether there was an extension of the great toe on irritation of the plantar surface?

Dr. Lodor replied there was extension.

In summing up the case Dr. Lodor said, I have gone over the ground Dr. Patrick speaks of, and had in mind toxemia. There is no blood change. The blood count is high. His general health has been good all the time until lately, when he has been restricted in his exercises. I have never examined a case in his station in life where all the sensory side was so perfectly normal, and where localization was so perfect, and his response is not only not retarded, but is intelligent and instantaneous. He knows where and what is touched. Until I get further light I cannot but hold to my present diagnosis that it is one of the few rare cases of lateral sclerosis and no further involvement of the cord; and yet, as I said in the history of the case, the rapid onslaught and perhaps his age are both against the diagnosis.

Dr. Patrick exhibited a case of **Superior Tabes** and said that owing to the importunities of the Secretary, he was a little premature in bringing this patient. He would have liked to have gone over the case more carefully before presenting him; but he has been carefully examined. It is not uninteresting and sufficiently clear to indicate that it is a case of **Superior Tabes**.

His history is as follows: Man, age 38 years. Has been married 4 years. The mar-

riage has been childless, although the wife miscarried once at two months. Seventeen years ago, while an employe of Edison & Co., was exposed much to wet and cold. Twenty years ago urethral discharge, though no sore. Habits good regarding alcohol and tobacco. In 1892 received a severe electric shock, was unconscious about two hours and for two months he was generally disabled. There was a fall of from 16 to 18 feet, which perhaps accounted for the unconsciousness, aside from the shock. In 1895 he seemed to fail generally in health. He lost in weight from 165 lbs. to 130 lbs. He recovered in weight to 180 in 1900. In 1900 vision began to fail and in three months this impairment had progressed to quantitative vision for both eyes. Within three months the eyes had grown so bad he could just count fingers. That was a year ago in July. Went out to Highland Park to do some work on telephone, having completed which, started home and became suddenly blind. He sat down on the sidewalk until someone came along to take him home.

Dr. Patrick said he thought the case should have more study before being presented, but would go ahead.

When he came to look over the statement Dr. Heck kindly prepared, several things seemed to suggest functional disease, and this sudden loss of vision may be construed as an intimation of the same sort of trouble. That was in 1902. It lasted from four to six weeks. The patient says "I got home and was taken down town, and the doctor said to go in a dark room. He gave me something and told me to keep where it was dark. He put drops in my eyes. This was kept up for about eight weeks. Vision gradually came back. At that time had severe neuralgia in the face."

He says he had extreme pain both sides of the entire face; so severe he could not sleep at night. He was told it was neuralgia from bad teeth, and had all taken out—22. The pain left gradually. The eye sight was all right with the glasses, until last July it began to fail. Last July he noticed a little place on the forehead where he felt the skin stiff and did not feel natural. When stuck with a pin he could not feel it. This gradually spread along the left side, around the eye, corner of mouth and down over side of chin, and is now completely anesthetic from the crown down around the chin. The advance of anesthesia and analgesia over the lips and chin has occupied six weeks. He has some little difficulty in swallowing, and occasionally chokes. He says "I just choke, and choke for a while, and then I am too weak to stand and sit down for a while." His description is suggestive of laryngeal crisis and is caused by irritation of the food, and he gasps, and then it passes off.

Another peculiar symptom which was learned of within a day or so is that he is extremely sensitive to a bath; no aversion, but an extreme sensitiveness of the skin. That has been since about last July too. Can tell the difference between hot and cold water on face, but it is more the body and legs that are so sensitive.

Could not stand putting feet into water, as it caused pain, but gradually put water on legs with hands.

Dr. Patrick said in passing that he had known several cases of tabes where there was a great hyperesthesia to cold water.

There is great sensitiveness to light. Dr. Patrick had seen once or twice that early in the failure of vision there seemed to be hyper-sensitiveness to light. He said that this may bear some relation to the fact that was brought out by Lehr (?) that there is apt to be a hyperesthetic area found if this anesthetic zone extends on abdomen or the abdominal reflexes are increased; and bordering on the anesthetic zone there is apt to be a hypersensitiveness to touch. Dr. Patrick remembered very clearly the case of a man who worked in a livery stable, and the most intense discomfort he had was when he had to wash buggies and got cold water on his legs and feet. That was really what drove him to the clinic, to get relief from this sensitiveness of legs and feet.

This case has analgesia bilateral in area of fifth nerve. Co-ordination is good; no ataxia. The patellar reflexes are present; the gait is normal. The supra-orbital is absent on both sides. The eye muscles are all right; pupils somewhat irregular. There is a typical Argyll-Robertson pupil. It is a question if he has a hippus. It seems sometimes he has. It is a question whether it is not connected more or less with an involuntary accommodation. In looking at a distance, he looks at one thing and another, and it may affect the pupil. It was thought at one examination he had an iridoplegic pupillary contraction. We satisfied ourselves that was also due to accommodation and not a question of light. The tongue is tremulous. Articulation is good; deglutition is good. This anesthesia, however, involves the tongue; pharynx not examined. There is analgesia in the oral cavity, but not anesthesia. Am inclined to think there is a shifting of the area of analgesia. He says the inside of the mouth feels like wool or sponge. Food does not feel natural. Taste varies. Occasionally trouble in swallowing. Taste varies; nothing constant about it. The question might arise that if this man really had anesthesia of the buccal cavity, how did he control the bolus of food. There seems not to be complete anesthesia, or he would not know where in his mouth the bread and butter is, and could not chew it.

#### Discussion.

Dr. Gradle asked what was the present condition of sight?

Dr. Patrick replied that glasses made vision all right.

Dr. Lodor asked whether or not there was any change in the areas of tap sensation during examination?

Dr. Patrick replied that he thought not.

Dr. Lodor said he thought at first the answer was no, and the second time clearly and definitely yes.

Dr. Patrick said that he had not noticed that.

Dr. Kuh asked whether or not the area corresponded to the distribution of the fifth nerve?

Dr. Patrick answers that the borders correspond very closely to the fifth nerve.

Dr. Kuh asked whether or not the reflexes of the triceps and biceps were present?

Dr. Patrick answers that the knee jerks were quite brisk.

Dr. Donaldson asked if the diminished sensation in the region of the fifth nerve could be associated with the loss of the large number of teeth, bringing degeneration as a consequence?

Dr. Patrick said that he thought not but that he was interested in that just a little, as he had had three cases of facial paralysis lately associated with the drawing of teeth, and in two of these there was herpes in the distribution of one of the branches of the fifth nerve, and in at least one there was anesthesia where the herpes was; but he would not attribute the anesthesia in this case to that, especially as the anesthesia was noted a year after the drawing of the teeth.

Dr. Donaldson said that it requires about fifty days in animals for the cells to cause a disturbance of the ganglion.

Dr. Patrick replied that the theory did not appeal to him as thousands of people have their teeth pulled and put in plates and have no trouble with the fifth nerve that he had ever heard of. He said he did not know that he understood how the drawing of the teeth could cause an anesthesia and asked whether or not it would be by shrinking?

Dr. Donaldson answered that he was thinking of a branch of the nerve supplying the teeth; it would then ascend and envelop the ganglion and that a very decided degeneration would lead ultimately to a shrinkage and possibly a disturbance of some of the cells of the ganglion.

Dr. Patrick asked if that would not cause pain in the fifth nerve?

Dr. Donaldson replied that he did not know.

Dr. Patrick said there are several interesting phases of this case aside from the functional complication. In the first place, the almost bilateral character of the thing from the first. The spot on the forehead seems not to be on either side, but in the middle, and bilateral tabes is quite unusual.

Dr. Kuh asked if it were a typical Argyll-Robertson pupil?

Dr. Patrick answered that it was not. He said he thought that currently, among neurologists this is a term synonymous with reflex iridoplegia and that no particular attention is paid to the size of the pupil, but that it is his custom to enter in the records the Argyll-Robertson pupil when it is not the pin-point pupil at all. Not more than one in five have the pin-point pupil. He then asked whether or not ophthalmologists always mean a small pupil.

Dr. Gradle answered yes.

Dr. Patrick replied that is not the current use of the term among neurologists.

Dr. Mettler asked when his eyes were examined?

Dr. Patrick answered within two weeks. The first time they were examined was by a man Thompson, who has the reputation of running



an advertising plant on State street. He has been examined three times since then, and there is no change. The pupil has acted the same.

Dr. Mettler said that you do get, in rare instances, in functional troubles, pupils of this character and that he had twice seen a hysterical amblyopia with pupils that did not react alike, and Dr. Gradle thought that all of the data in the case had not been obtained, but Dr. Mettler felt sure that he did find a rigid pupil to light in hysteria. This man has neither large nor small pupils. It is probably due to spasm. Oppenheim gives that explanation in functional trouble due to spasm of the dilated pupil.

Dr. Frank said the case he had last meeting had dilated pupils because of the iridoplegia.

Dr. Patrick in closing the discussion said that in going over in his mind the various causes of the Argyll-Robertson pupil, tabes in this case seemed a better explanation than any other. There is to be considered spasm, alcoholism, and multiple sclerosis, and the result of a previous ophthalmoplegia, or a lesion of the third nerve, but there is no evidence of any of these causes in this case.

A regular meeting of the Chicago Neurological Society was held March 24, 1904, with Dr. Sidney Kuh in the chair.

Dr. Alfred C. Croftan presented a case of **Unilateral Serratus Palsy**, with possible spinal myosis. The patient had a history of exposure to cold while working at the Stock Yards, where, in the steam room, the temperature was alternating hot and cold. In October he came down with an attack of what he termed "general rheumatism," lasting for three days. He recovered and went to work, but at the end of five hours labor was forced to quit on account of inability to raise his arm. His occupation necessitated his holding hides and giving them a vigorous shake, raising them high up to do this. The doctor said that when the man first came to him his scapula stood off considerably. Careful examination elicited nothing further save a considerable increase in the reflexes on that side, and an inequality of the pupils, which Dr. Croftan considered to be a spinal myosis. Accommodation to light, etc., had not been determined. The patient had improved remarkably under somewhat large doses of K. I. The question for determination was as to whether the lesion was local and peripheral, or spinal. Dr. Croftan was inclined to think the latter. There were no sensory disturbances and absolutely no specific evidence. The onset was very sudden. Dr. Croftan said he had told the class it was a spinal lesion between the 5th cervical and 1st dorsal. There was no temperature disturbance.

In the discussion following, Dr. Patrick showed pictures and described the case of a young man of 20, who, while practicing the swing on the horizontal bar, in preparation for some turner's exhibition, had suddenly developed paralysis of the serratus—he did not know just how rapidly it had come on. It was probably the drawing up of the shoulders and the pressing of the clavicle against the nerve that caused the trouble, but Dr. Patrick did not think

this a very good explanation, because the posterior thoracic nerve is supposed to pass beneath the brachial plexus, and if one is to explain this symptom by pressure on the clavicle, it is reasonable to suppose the plexus would be involved to even greater extent. There is a question whether it might not have been caused by a pinching of the nerves, as swinging by the arms would be entirely a pulling and not a pushing. The boy was taken off his exercises and recovered. A good many cases had been reported from carrying weights on the shoulders, and from occupations involving violent motions of the arms; also in painting ceilings and reaching over the head to accomplish this; but this would give a different muscular action, that of pushing up, thus straining the serratus.

Dr. Lodor suggested that the muscular effort is the same, whether pushing or pulling, that is, rotation or prevention of rotation of the scapula. Many piano movers are affected, where one man acts as a pivot and the piano is turned on his shoulder.

Dr. Kuh doubted there having been rheumatism, or that there had been a sudden onslaught.

Dr. Lodor said that all the symptoms pointed toward a lesion within the cord.

Dr. Harold N. Moyer called attention to the fact that it was much like a case exhibited by him two months before of unilateral amyotrophic lateral sclerosis. This would account for all the lesions. The fact that the paresis has involved the serratus more than the other muscles was significant. There were the fibrillary contractions, the increased myotatic irritability, and to his mind, a complete picture of lateral sclerosis. The possible factor of syphilis would account for any kind of a picture, and would show why improvement was made under antisyphilitic treatment.

Dr. Charles Louis Mix, presented a case of **Syphilitic Spastic Spinal Paraplegia** and said that in 1875 Erb described what he supposed to be a new morbid entity under the name of Spinal Spastic Paraplegia, supposing the underlying pathological condition to be disease of the lateral tracts. Three symptoms were said to be present, paraplegia, increased reflexes with or without ankle and patellar clonus, and increased muscular tension or spasticity. With the discovery of Bobinski's phenomenon, the toe sign was added as a fourth necessary symptom. From the negative point of view, atrophy, sphincteric disturbances, ataxia, tremor, sensory signs, involvement of the cranial nerves, are all absent. Clearcut as the symptomatology is, Erb's spinal spastic paralysis has had a dubious career, and now after almost thirty years, but eleven post mortem cases are on record, these having been recently collated and detailed at greater or less length in the *Deutsches Archiv. für Nervenheilkunde* of last year. Von Leyden and Goldscheider of Berlin reject Erb's disease; Oppenheim accepts it as a morbid entity, but insists that many cases apparently pure, subsequently unmask themselves, becoming cases of multiple sclerosis, chronic hydro-

cephalus, syringo myelia, tumor at the decussation of the pyramids, or symmetrical cerebral focal disease.

Erb, having a well-defined concept of what spastic spinal paraplegia should be clinically, noted that among his patients suffering from spinal disease secondary to syphilis, there were many presenting a group of symptoms closely resembling those of spastic paraplegia, yet also showing slight sensory symptoms. Up to the year 1892, when Erb published his first paper concerning syphilitic spastic spinal paralysis, in the *Neurologisches Centralblatt*, (p. 161), it had been his custom to classify these cases under the broad head of myelitis transversa dorsalis, notwithstanding the fact that they are symptomatically very little like ordinary cases of transverse myelitis.

Clinically Erb noted that these cases presented the typical picture of his so-called spastic spinal paralysis, in gait, posture, locomotion and in the greatly exaggerated reflexes; but that the increased muscular tension was proportionately less marked than in true spinal spastic paraplegia. Moreover, as a rule other symptoms were present. For example, there were moderate disturbance of the bladder, and slight sensory impairment of a vague sort, impossible to map out accurately on the patient's body. As in spastic spinal paraplegia, these specific cases showed no muscular atrophy. Unlike ordinary cases of specific meningo-myelitis, there were no root symptoms, there being little or no pain. Like ordinary cases of spastic spinal paraplegia, the cranial nerves, and the cervical and dorsal spinal nerves escaped.

The development of these cases is gradual, extending over months, or even years, being ushered in by symptoms of paresthesia and slight transitory pains. There follows in time the subjective feeling of increasing fatigue on exertion, associated with demonstrable weakness of the lower extremities. Spasticity develops *pari passu* with paresis. Subsequently vesical symptoms appear, and the symptomatology is completed. Though the development is very gradual, it may be rapid; as a rule, however, the evolution is exceedingly deliberate.

Certain points in the symptomatology require special emphasis. The spastic gait is exquisite, slow, dragging, very stiff, the steps taken with great effort. On the other hand, the paralysis is very slight—merely a paresis. Compared with the development of other symptoms, the muscle-tonus is only slightly increased, so that contractures are rare, occurring in scarcely ten per cent of cases. The reflexes are violently increased, patellar clonus being common, and ankle-clonus the rule. The Babinski toe sign is present on both sides, indicating double involvement of the pyramidal tracts. Sensory symptoms are objectively very slight, consisting of disturbances chiefly of the tactile sense, though the thermic sense, the muscle and joint sense and the pain sense may all be slightly impaired. Subjectively, sensory disturbances are more numerous, consisting mainly of slight pain occasionally and of various paresthesiae very frequently. Bladder symptoms are constant, consisting chiefly of inability to start the

stream, or to prevent the passing of a few drops of water after micturition seems to the patient to be completed. Rectal incontinence may rarely be present; and if present, it may alternate with vesical incontinence or retention. The sexual function, as in *tabes dorsalis*, is in part lost; but there is no antecedent heightening of desire.

From the negative point of view it must be insisted that the nerves of the head, neck and upper extremity are entirely free from disease. The pupils are perfectly normal, the eye muscles absolutely intact, the speech unimpaired. There is no loss of memory or of intelligence. Tendency to spontaneous improvement is frequently noticed, especially after energetic specific treatment. Improvement may set in and last even for decades. In other cases the disease progresses slowly to a certain point, and then remains stationary, without further development.

In making a differential diagnosis, *tabes dorsalis* is at once eliminated by reason of the perfect pupillary reactions and the exaggerated patellar reflexes. Multiple sclerosis is not so easily differentiated, cases of apparent syphilitic spastic spinal paralysis actually "unmasking" themselves, showing true multiple sclerosis. Compression myelitis gives a marked paraplegia, with pronounced contractures, whereas syphilitic spastic spinal paralysis shows slight paraplegia and rarely any contractures. Syringomyelia is revealed by the dissociation of sensory symptoms and by the trophic disturbances. More difficult is the differentiation of the syphilitic cord lesions, notably syphilitic meningo-myelitis, gummatous multiple root-neuritis, and forms of syphilitic polio-myelitis.

As to the time of the development of the disease, with reference to the date of syphilitic infection, Erb noted that in his original 22 cases, 13 showed symptoms of the disease in the first three years, 18 in the first six years, and only 4 after six years. As to its frequency, it seems to occur one-tenth as often as *tabes dorsalis*.

Kuh, in 1893, reported sixty-two cases from Erb's clinic, and private practice, adding seven other cases gleaned from the literature. Of 51 of these, 21 showed the disease within two years of the time of infection, 36 within five years of the time, and 41 within ten years. As to the age of the patient at the time the disease developed, 6 of a total of 56 were under 25; 12 were between 26 and 30; 11 were between 31 and 35, and 15 were between 36 and 40. Thus 44 cases were under 40, only 12 being above that age.

Well-defined as the disease seems to be clinically, there have been a surprisingly small number of confirmatory post mortem observations, Erb having been able to find but nine, which he has reported in detail in his last paper on the subject, in the *Deutsches Archiv, für Nervenheilkunde*, in 1903. It is hardly necessary to enumerate these cases, it being sufficient to state that of the nine, only five cases conformed to Erb's idea of what the pathological changes should be. Curiously enough, all of the cases showed degenerative changes in the direct cerebellar tract and in the column of Goll or of



Burdach, or of both. Erb therefore expresses himself as willing to extend his original concept of what the pathological changes should be, and to add these changes to those affecting the pyramidal tracts.

The case presented is a pure example of Erb's type of syphilitic spastic spinal paralysis. The patient is a Welchman, 43 years of age. For ten years he has been afflicted with his present malady, which began five years after a specific chancre. The onset of his disease was with sensory disturbances, chiefly algesic and paresthetic. In two or three years a progressive weakness and stiffness of the legs followed, and great exaggeration of the patellar reflexes and the presence of double ankle clonus. At the present time he shows areas of slight disturbance of tactile sensation, chiefly in the right leg, though to some extent in the left; and as in Erb's case, it is impossible accurately to map out these areas. The sensory impairment includes tactile, algesic and thermal sensations. Indeed, there is more involvement of the sense of temperature than of the sense of touch. The reflexes are grossly exaggerated, especially noticeable in the patellar and tendo-Achillis reflexes. Ankle clonus is present on both sides, and patellar clonus, though absent now, was recently to be demonstrated. There is also a double Babinski reflex, so easily elicited that pinching the calf is sufficient to call it forth in either foot. The spasticity is evidenced best in his gait, which is exquisitely spastic. That there is motor weakness is evident when one tests his quadriceps extensor muscles, the soleus and gastrocnemius groups and the flexors and extensors of the foot. It will be noted that a large amount of strength remains, there being merely a reduction and by no means a paralysis of motion.

The bladder has long given the patient trouble, retention and inability to start the stream being the chief signs. There has been rectal incontinence during casual periods of diarrhoea. From the negative point of view, the entire absence of muscular atrophy, fibrillary twitching, tremor, disturbed pupillary reflexes, cranial nerve impairment, involvement of the nerves of the neck, arm or trunk, are all noticeable. The case is therefore a pure example of Erb's syphilitic spastic spinal paraplegia.

Dr. Harold N. Moyer exhibited a case of **Chronic Hereditary Trophedema**, saying there was no doubt about the rarity of the disease. Meige in 1890 had exhibited a similar case before the French Neurological Society, and in 1892 DeBove published a case in *La Presse Medicale*, under the title of *Segmentary Edema*.

Dr. Moyer had seen one other case of the disease, five years ago, and this was confined to the upper extremity; he regretted that he had not put this case on record.

Dr. Moyer's present case is that of a young lady of 32 years of age of good history; never had any sickness since the children's diseases. The enlargement began about twelve years ago, just above the shoe top. Never had been any pain or discomfort. It occurred after a sprain, but she did not know that the sprain caused it. The same thing began in her mother about eight years ago, and is like the present case except that it does not extend above the knee. The patient has been active all the time, attending to her duties as school teacher, and able to walk long distances. There is a difference in the calf measurements of five inches. The skin seems perfectly normal. It is probably not an edema, but a trophic disturbance. There is no pitting of the skin and no fluid. There is a uniform enlargement of the whole lower extremity from the crest of the ilium to the foot. There seems to be an increase of body of the entire muscular system. It is not, in a certain sense, a disease. All that is complained of is muscular hindrance. The leg is big and hence uncomfortable and in her way. There is no central disturbance. The thyroid is present, but it is impossible to tell its condition, of course. Some tablets she took (probably thyroid extract) sent the heart up to 122-4 and these were not used again.

Dr. Crofton asked if it were possibly a phlebitis, but it was considered too slow and too diffuse for this. There is no disturbance of the circulation; no enlargement of the veins. It is not known if the bone is enlarged, but an X-Ray will be secured later. No pathology is known because there have been no examinations. The cases are very rare. Alternatives in small doses have been used with some benefit: active massage and some bandages or elastic stockings seemed to give comfort and support which was grateful to the patient. It was hoped they would improve circulation and prevent stasis.

Dr. Kuh suggested that Iodothyren might avoid some of the unpleasant results of the thyroid extract and not upset the system.

Dr. Crofton suggested that the disease would not be unilateral if it were due to the thyroid.

Dr. Lodor thought iodide cataphoresis ought to be of service. Using the positive pole over the extremity and the negative pole as the indifferent one and employing iodid of potassium.

Iodoneucleoid has been used and the patient and nurse think she has improved somewhat under active massage.

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## PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

Dr. A. H. Ohmann-Dumesnil, under date of June 1, 1904, writes as follows:

There are numerous occasions when resort to a Hypnotic becomes a matter of imperative necessity, and in the choice of such remedy several points of interest present themselves for consideration by the conscientious prescriber. Such a preparation must be **safe, certain** and **prompt**. In many cases it is demanded that it must also **relieve pain**.

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## THE USE AND ABUSE OF DRAINAGE.\*

BY J. H. STEALY, M. D., FREEPORT.

Intimately related with the successes of surgery and measuring the individual judgment as perhaps no other procedure does, the question of drainage, and its discussion nevertheless seems worn threadbare. But I have felt, in view of the increasing and what I consider alarming tendency to a more restricted use of this valuable and life saving procedure, that even at the risk of triteness it might be well to take a review of the question and attempt to determine if this tendency be really justified.

There is no one question, it seems to me, so dependent upon individual judgment as the decision to drain or not to drain in a given case, from the fact that as yet we have no formulated rules governing the question.

I do not question those cases well placed upon the other side, where a localized collection of pus can be removed without rupture of the pyogenic walls. But the various authorities who advocate the closure of the abdomen after the mere evacuation of septic material, depending upon the peritoneum to take care of the remaining infection, are maintaining a practice which is illogical and dangerous, and which is responsible for a vast amount of harm to the patients of the occasional operator, as well as possible harm to their own.

We all can recall cases of our own where the abdomen has been closed, and where the after history has shown us that it would have been wiser to have drained. And there have occurred within the last three years a number of notable cases, where the post mortem findings have justified the belief that the chances for recovery might have been en-

hanced had an avenue existed for the escape of septic material.

The whole effort of surgery in septic cases, as those sequel to an appendicitis, visceral wound, and various other lesions of organs of the abdominal cavity, is the release of the septic material and the drainage of the septic accumulations subsequent to the operation.

The advocates of non-drainage of these cases maintain that the peritoneum is able to care for the subsequent accumulations, if the retained septic material be released and a careful toilet be made by normal flushing, etc. But is it right here that the illogical nature of the theory becomes apparent.

The patient is supposedly in normal health at the onset of his trouble, be it appendicitis, pus tube or what not. He has proven his inability to take care of the infection with his peritoneum and emunctories in healthy condition. Is it reasonable to suppose that every case, relieved of the original accumulations of pus, is going to be able *now* to overcome the same and, by reason of its successful combat with the system, probably more virulent infection, with a damaged peritoneum and more or less deranged emunctories and weakened vitality, not to mention the shock resultant upon the operation? I think not. If the patient were in the first instance competent to combat the infection, where is the need for operation? If he be not capable of it, is he rendered more able to withstand infectious assaults by the evacuation of a certain amount of macroscopic septic material, which is by no means the whole of the amount, however carefully he be flushed out?

I grant that there are cases, and the majority too, which will go on to recovery without incident, after the drainless method, even after a violent infection, but these cases do not concern me. It is for the occasional case which would not recover were it not for the drain that I argue.

\*Read at the 54th Annual Meeting. May 17, 1904.

It is thus that we reason for the early operation for appendicitis, not because appendicitis is always fatal; for we know that the majority of cases recover. But it is for the occasional cases that do not recover that we advise a routine operation on all cases. I recognize that this comparison is not a complete one, for appendectomy, properly done before the presence of pus without the walls of the appendix, leaves the abdominal wall as strong, practically as before, whereas it cannot be denied that the presence of a drain and the entailed secondary union in that portion of the wound lips in contact with foreign material, does to that extent weaken the abdomen. But I am confident that even this draw back has been over drawn. Out of some 1,500 laparotomies in my records, 207 cases were drained and I have the history of six where a post operative hernia occurred.

But admitting that even a far larger proportion of cases did require subsequent operations, is this to be held as against an occasional general peritonitis for the want of sufficient drainage?

Prof. Clark of the University of Pennsylvania, whose views Robert T. Morris upholds, states that "Drainage is directly opposed to scientific knowledge" and in a study of 1,700 cases states that:

1. There is a great decrease of micro-organisms within one hour after their intraperitoneal destruction and their rapid absorption into the general system; and the consequent inability to limit septic matter to any free surgical field within the abdomen.

2. Vigorous streptococci, which remain behind, develop a destructive quality for leukocytes, precipitating a lethal fight before drainage is set up.

In his first argument I consider that he thereby argues for drainage. The current of the peritoneal lymph is from pelvis to diaphragm. This current tends to carry the infection in this direction thus spreading it, as the phagocytes can not neutralize the bacteria in the short time required to carry them the length of the abdominal cavity. It is as he states impossible to limit the field of infection. Therefore, by the use of the drain,

which by force of its capillarity, is able to reverse this current from diaphragm to pelvis to a large extent, do we at least impede the progress of bacteria.

In his second argument he practically admits that drainage may be of benefit in some cases, where he says that: "A lethal issue has been determined before drainage is made." And who is there able invariably to say an infection is streptococcic?

Morris, who perhaps is one of the foremost in the field advocating less drainage, certainly does get some remarkable results. But I question the prudence of placing any patient in jeopardy, as I consider it, even with a host of brilliant results, if thereby an occasional patient succumb. He mentions his objections to drainage in the following terms:

"Gauze packing in the abdomen causes ileus and obstruction by direct pressure. It more often causes excess of lymph, which may result in annoying peritoneal adhesions and leaves a weak spot in the abdomen. It depresses the patient and prolongs if not causing surgical shock." But I maintain that granted all of this, which I must confess appears overdrawn, the dangers of drainage and the sequela, are certainly as a rule rather to be chosen, than leaving virulent organisms in the abdominal cavity with no escape for their products should they not be overcome by the bodily resources.

And further, one of the important functions of drainage is to relieve pressure and tension, without which, with the exception of the virulent streptococci inflammation, bacterial effects are almost nil. It is therefore not necessary to provide a large drain in many cases, a mere vent for increased tension being sufficient. And it goes without saying that a drain must naturally be skillfully used for it is by its continued presence past the time of its necessity, that these evil effects are most apparent.

In many cases the insertion of a cigarette drain for 12 to 24 hours, long enough to enable the system to react, and relieving the abdomen of a serum, blood, etc., which later may become the medium for growth of bacteria, proves quite sufficient, and the draw-



ing together of the wound edges then by means of an untied suture, gives the abdominal wall as much strength as if the abdomen were closed primarily.

Prof. Ochsner, of Chicago, while admitting the greater tendency in the profession to immediate closure of the abdomen, conservatively states that while he drains much less than formerly, yet when in the slightest doubt, he always drains. Westbrook, in the Brooklyn Medical Journal very correctly draws the following conclusions: "There are as yet no well recognized formulae to guide the surgeon as to when to omit drainage in purulent collections attending appendicitis. 2. While it is true that the peritoneum may be relied upon to take care of a certain quantity of infectious material we have no means of estimating in any individual case what that quantity may be. It is contrary to experience to expect the peritoneum to care for any large quantity of infection, otherwise we should never have to operate for appendicitis or peritonitis."

3. "An estimate of the individuals resistive power to infection may be approximately made by the usual methods of consideration of the condition of his lungs, kidneys, etc., his pulse and temperature.

But we have no means of placing over against this at the time of operation, an accurate estimate of the amount and virulence of the infection with which the patients resistive powers will have to contend. We cannot estimate any individual susceptibility or immunity which he may possess."

4. "If the surgeon decides to omit drainage in any case of appendicitis with outlying infection he must do so relying entirely upon his personal ability to estimate the clinical facts in the case, and the nature and extent of the pathological process exposed at operation. Then if his previous experience has brought him to the point of omitting drainage, he is warranted in so doing."

5. "The majority of surgeons the world over still consider drainage necessary in all degrees of the class of cases under discussion and that we must consider the safer teaching. This is the position I have always taken, and I believe there is no reason as yet

to change it." This is, I think, the keynote to the whole proposition.

In closing, I desire to emphasize one particular thing, not more connected with this subject than any other involving a radical departure from routine practice, especially involving questions of judgment.

Every man of authority has a very great responsibility upon his shoulders in the propagation of his views where this question of departure from accepted teachings is involved. Men of large surgical practice must remember that the very men who rely upon their words in matters surgical are the very men who by lack of experience have less sound judgment in matters such as of this question of drainage. What to the specialist seems a simple question, to the occasional operator is a matter of great perplexity, and ten to one they allow the word of the specialist to decide for them. If that word be ambiguous or doubtful, the patient suffers. In the same way, while I am convinced of the utility and soundness of Dr. Ochsner's much misunderstood starvation treatment for appendicitis, I have time and again seen the unfortunate results of his teaching in cases long gone past medical or surgical aid, because the cases lacked a master's eye to foretell impending danger and the need of operation.

It is thus that I fear for the teachings as to less drainage. To men of large surgical experience, the decision not to drain in cases of pus is made with a large experience to aid in the settlement of the question. But it will I am confident mean disaster to the man of less experience who lacks the facilities for a perfect judgment to correctly select his case.

97 Stephenson street.

## SUBCUTANEOUS INJURIES OF THE ABDOMINAL WALLS AND VISCERA.\*

BY DANIEL N. EISENDRATH, A. B., M. D.,  
CHICAGO.

In taking a retrospective view of abdominal surgery in the past twenty years one is

\*Read at the 54th Annual Meeting, May 17, 1904.

struck by the fact that, comparatively speaking, the treatment of injuries of the abdominal viscera without external signs has progressed rather slowly.

The increased number of reports of both successful and unsuccessful intervention shows that the interest of the profession has been aroused both in this country and abroad, especially during the past eight or nine years. Up to that time a patient who had been stabbed or shot, and who had some palpable evidence of injury in the shape of a wound of entrance, received far more attention than one who had often sustained graver and more frequently fatal injuries, but who perhaps had only a few abrasions on his abdomen.

The practitioner or surgeon, or both, were only too often content with making a diagnosis of "internal injuries" and calmly watch the patient succumb to a septic peritonitis from a perforated intestine or bladder. The same physician who would urge immediate laparotomy for a ruptured extrauterine pregnancy on account of the rapidly increasing symptoms of anemia from hemorrhage into the free peritoneal cavity, would often sit apparently hopelessly by the bedside of a man or woman who showed the same symptoms from the rupture of a spleen or liver or kidney, as the result of a crushing blow upon the abdomen, and not be aware of the fact that a laparotomy with extirpation of the spleen or the simple tamponade of a bleeding liver is even easier than the removal of a bleeding tube.

Ruptures of the abdominal viscera without external signs are more frequent than the combined number of gunshot and stab wounds of the same organs.

Of 362 cases of injury of the liver collected by Edler, in 1885, 50%, or 184, were without external signs and the remainder due to stab and bullet wounds. A similar ratio held true for injuries of the spleen.

Many lives could be saved every year if the diagnosis of a rupture of one of the abdominal viscera were made early enough, so that the question of surgical intervention might be discussed at a time when the percentage of chances of success are greatest. This is in the first six to twelve hours after

the injury. As I will show below, it is practically useless to make a diagnosis of a perforation of the bladder or intestines after the first twenty-four hours, or to hope to compensate for the tremendous hemorrhage following a laceration of the spleen, liver or kidney after the first twelve hours.

I trust that the reading of such papers as the present one will draw the attention of both the surgeon and practitioner to this fertile field for their diagnostic skill. Whenever a man or woman has fallen from a height, been kicked by a horse or human being over one of the abdominal regions, or thrown against a wagon pole or some other projecting object, or the trunk has been crushed, or some blunt missile been thrown at him, do not fail to look for symptoms of a ruptured viscus, and give the patient at least the benefit of our latest observations in this direction. In many cases your watchfulness will be rewarded by the saving of a life which would have been lost without prompt surgical intervention.

When I am called to see a case with the history of one of the above modes of injury, my first thought is to consider which organ can have been injured. A practical division into hollow and solid viscera facilitates such a differential diagnosis, and by painstaking observation of the general and local conditions a probable and often positive opinion can be formed, not only of whether any organ has been injured, but also of which particular one, so that the abdominal incision can be made as close as possible to the seat of injury.

Amongst the hollow viscera may be included, in the order of frequency of their injury, the small and large intestine, urinary bladder, stomach, gall-bladder and ureters. The solid viscera, also given in the order of their frequency of injury, are the kidney, liver, spleen and pancreas.

Ruptures of the kidney and intestine formed over 60% of 143 cases of all varieties collected by Makins and Neumann.

The reason for this is that the intestines have behind them the firm spinal column, and are only separated from the abdominal wall in front by the omentum, so that they



are most frequently caught between the place where the abdomen is struck, and are then crushed against the spinal column. Such a mechanism of injury occurs when the ileum or jejunum are crushed and torn, because the coils of this portion of the intestines are more mobile and are readily compressed against the firm spinal column.

A second variety of injury of the small intestine and at times, although far more rarely, of the large intestine, is a tearing off of the bowel say at the duodeno-jejunal flexure, or in the ascending or descending colon by a force which separates the bowel from its rather fixed point of attachment.

The reason why the kidney, like the intestine, is so frequently injured has been variously explained. According to some, it is compressed by a crushing force between the rigid spinal column and the last two ribs; according to others, it is the action of the force upon a body full of liquid, which causes it to burst. (Kuster's hydrostatic theory). The spleen and liver are fairly well protected by the lower six or seven ribs. They lie in close contact with these bones, being separated from them by the diaphragm and lower borders of the lungs. A fall from a height, however, will allow the liver, by reason of its own weight, to be torn from its firm ligamentous attachment to the diaphragm. Similarly, a fall upon some blunt object, or a crush between two resistant bodies, as being run over, or the compression of the lower part of the thorax, caused by running into a wagon pole or being struck by some object, as in one of my cases, where a monkey wrench was thrown at a boy, or as in another case, where a man was struck a blow by a policeman, or a horse kick, all of these are liable to cause a rupture of the spleen or liver. The organ is caught between the force and the ribs lying behind them, as well as the spine, and crushed.

The empty urinary bladder is seldom injured, because in the adult it lies well within the bony pelvic ring. In the child, however, a less degree of fullness than in the adult favors a rupture, as in the case to be spoken of below, because the bladder in children lies

only in part in the pelvis. In adults the bladder, when full, is most likely to tear at the fundus. Such a rupture is often associated with fracture of the pelvis. It may be situated entirely in that portion of the bladder which is covered by peritoneum, thus allowing the urine to escape into the general peritoneal cavity, giving rise to the intraperitoneal variety of rupture. On the other hand, especially in fracture of the pelvic bones, it is torn at some point not covered by peritoneum, permitting the urine to escape into the pelvic cellular tissue, and even into the abdominal wall as in my own case (see below).

The gall-bladder, ureter and pancreas are seldom the seat of injury, because they are well protected by surrounding viscera.

What are the pathology and results of the rupture of the individual viscera? Only the capsule of the kidney, liver and spleen may be torn and heal spontaneously without symptoms. If, however, a laceration of the parenchyma occurs, it may vary from a simple tear, extending deeply into the organ, to complete pulpification.

The immediate effect of these latter injuries is a more or less severe hemorrhage, which in the case of the liver and spleen escapes into the free peritoneal cavity, and gives rise, as we shall see shortly, to dullness in the dependent parts, and to symptoms of acute anemia. In 143 cases of death from rupture of the liver, hemorrhage was the cause of death in 59. In the kidney injuries, the blood in the majority of cases escapes into the perirenal tissues, and along the ureter, causing hematuria. In a small number of cases the peritoneum in front of the kidney was torn, allowing the blood to flow into the general peritoneal cavity, and giving rise to the same group of symptoms as in rupture of the liver and spleen.

The hemorrhage from the solid organs may cease spontaneously, and in the case of the extraperitoneal kidney lacerations this blood will, in the majority of instances, be absorbed and the patient recover. But when there has been a temporary stasis of bleeding in ruptures of the spleen and liver, and intraperitoneal injuries of the kidney, the pa-

tient may have a recurrence of bleeding from dislodgment of the clot, or may succumb to a sepsis from infection of the large quantity of blood in the peritoneal cavity.

In the case of the hollow viscera, like the stomach, intestine and bladder, the conditions are even less favorable than in the solid or parenchymatous viscera.

The chances of a walling-off of the escaping intestinal contents or urine are very slight, and the mortality of non-operated cases is almost 95%; 11 out of 160 cases not operated upon recovered with formation of fecal abscess.

In intraperitoneal rupture of the bladder, the prognosis is fully as bad if not operated upon.

When the urine escapes into the general peritoneal cavity, peritonitis develops within forty-eight hours. In extraperitoneal ruptures the loose pelvic cellular tissue becomes infected a little more slowly, but causes sepsis and death in the end.

Every patient should be examined in a more or less systematic manner as follows:

1. How did the accident occur? Was he crushed, run over, struck a blow over the abdomen, have something thrown at him; did he fall from a height upon his feet or buttocks?

2. Exactly what part of his abdomen received the main impact of the blow? If in the region above the umbilicus in front, suspect injury of the liver, spleen, kidney, gall-bladder, stomach and duodeno-jejunal flexure, or tears of the mesenteric vessels. If below the umbilicus in front, suspect the small and large intestine, urinary bladder and ureters. If the main impact of the blow was received over the lumbar regions, examine for injuries of the kidneys.

3. What is the patient's general condition? Has it improved or grown worse since the time of the accident? The first effect in many cases of a blow upon the abdomen is great shock, with all of its typical symptoms. This primary shock is often not recovered from and continues up to the time the patient is seen by a medical man. If, with such a history of continuance of primary shock,

with rapid, small pulse, great pallor of the skin and visible mucous membrane, restlessness, thirst, there are other signs of internal hemorrhage, one should suspect that one of the solid viscera, like the spleen, the liver, or kidney, has been torn, and if there is no improvement in the patient's condition within six to eight hours from the time of injury, the chances for amelioration of the symptoms is slight. In other cases the primary shock or primary syncope is recovered from by the time the patient is examined, and we must then depend upon the history of the injury, the local conditions which can be obtained by physical examination (see next subdivision), and a gradual increase in symptoms of anemia, or of peritonitis for our diagnosis. This class of cases will be discussed more fully below.

In a third class there has been apparently no primary shock at all, and we have simply the history of an injury, and the results to be obtained by a careful local examination of the patient's abdomen, and observation of his pulse as to increase in rate, in order to make our diagnosis. It is this last class of cases to which we are called, with only the history of an injury, in which rupture of the abdominal viscera is so often overlooked until the symptoms of peritonitis or of internal hemorrhage are so evident that surgical intervention is too often of no avail.

4. A careful physical examination of the patient's abdomen is one of the most valuable aids in making a diagnosis. This may be conducted in a systematic way like an ordinary physical examination, beginning with inspection of the abdomen. (a) One should look for abrasions, bruises, or the evidences of a traumatic hernia, all of which may aid us somewhat in determining over what portion of the abdomen the greatest amount of force acted. The history of the injury at this stage will aid us greatly, because in some cases the force acts in a circumscribed manner, as, for example, a human or a horse kick upon some one point of the abdomen, where it often leaves slight traces. Similarly, the history of a more diffuse force, such as violence from a crushing between two cars, or between the axle of a wagon and a wheel, will



aid us in determining whether a viscus at some distance from the skin, abrasions or bruises which may be present in the case, has been injured. Following this examination of the skin, one should take the next step in the physical examination, that is, palpation of the abdomen. First, determine whether there has been a fracture of any of the ribs, because such a fracture is often accompanied by ruptures of the spleen, liver, and kidney. Next determine whether there has been a fracture of any of the pelvic bones, especially in the region of the symphysis pubis, because such a fracture is frequently accompanied by ruptures of the bladder and of the urethra. The next step in palpation is extremely valuable, namely, to find out where the greatest degree of tenderness exists, because this will often lead to the determination, especially in the early hours, as to whether a visceral injury has occurred, and is regarded as one of the most valuable signs by the majority of surgeons. A second extremely important symptom to be determined by palpation is one to which French and German surgeons attach great value, namely, the presence of a more or less localized rigidity of the abdominal wall, especially if it persists during a number of hours of observation of the case. Palpation will further aid, as in one of the cases I will shortly describe, in determining whether the protrusion is due to hernia, or a blood clot.

After these steps of inspection and palpation of the abdomen, which may have yielded valuable evidence of injury, a third subdivision of this physical examination consists of careful percussion of the abdomen.

By this aid we can determine whether there is dullness present in the flanks and also whether there is any change in the area of dullness when the patient is turned upon his side. In some cases it may be very difficult to elicit any changes on account of the rigidity and pain.

In ruptures of the spleen and liver, as well as in those of the kidney, in which the blood has escaped into the general peritoneal cavity, dullness appears quite early in the dependent parts, and if the blood has not all clotted, the anterior border of the area will

change according to the position of the patient, just as in ascites. In many cases there is also an increase in the size of the areas of dullness of the spleen and liver when these are torn. In extraperitoneal ruptures of the kidney dullness extends much farther toward the front of the abdomen than the normal kidney dullness.

In ruptures of the bladder the lower part of the abdomen will show distinctly increasing areas of dullness.

This latter sign I have found to be of great value in the diagnosis of the two cases of extraperitoneal rupture upon which I operated.

After having made the examination in the order given above, consider some of the individual symptoms, such as vomiting, increasing tympanites, and rise in pulse rate; in other words, the symptoms of peritoneal irritation which are followed rapidly by those of a more or less extensive peritonitis.

Vomiting which continues for some hours after the injury points strongly to intestinal perforation. Increasing tympanites and a constant rise in the pulse rate are indicative of beginning peritonitis.

Hematuria with or without renal colics points strongly to rupture of the kidney or uterus, especially if it increases in severity. A constant desire to urinate without the ability to do so is characteristic of injury to the bladder. The test by which a certain amount of sterile fluid is injected into the bladder, and the same quantity is expected to return, if there is no perforation, is so apt to lead to wrong results that but little reliance can be placed upon it.

#### HOW SHALL WE TREAT THESE CASES?

If we have made a diagnosis of rupture of the intestine or urinary bladder, the sooner the case is laparotomized, the better the chances for recovery. The same holds true for ruptures of the spleen and liver. Left to themselves, over 80% of the cases of spleen and liver injuries, 93% of those of the intestine, 89% of the extra and 98% of the intra-peritoneal ruptures of the bladder, will die. The outlook for spontaneous recovery in laceration of the kidney is far bet-

ter. About 65% of such cases will recover without operation.

Through earlier diagnosis and operation the percentage of recoveries is constantly increasing.

Up to 1890, 3 cases of rupture of the spleen had been operated, with 100 cases. In an article written by me in 1902, the percentage of recovery in 50 collected cases was 56%, or 28 cases. Of these 28, 27 had been operated upon since 1895. I have been able up to the present time to collect 110 cases of ruptured spleen which were operated, of whom 65, or 59% recovered, and 45, or 41% died.

In 1896, Petry collected 36 cases of rupture of the intestine, which had been laparotomized, with 52% mortality. Since 1896, I have found reports of 50 cases, with 23 deaths (46%), and 27 recoveries (54%).

The same improvement holds true for ruptures of the liver. Up to the present time I have collected 46 cases, with 21 deaths (45%), and 25 recoveries (55%). The percentage of recoveries after intra- and extra-peritoneal bladder ruptures has increased in a similar proportion.

There can no longer be any question that surgical intervention is called for as soon as a diagnosis of rupture of abdominal viscera has been made. The only exception is in the treatment of ruptures of the kidney, where the results have been far better with the expectant treatment unless the symptoms indicate operative interference. Such symptoms, in the case of an intraperitoneal laceration of the kidney, cannot be distinguished from those of a rupture of the spleen or liver. In the case of an extraperitoneal rupture, the destruction of kidney substance may be so extensive as to involve one of the larger branches of the renal artery, under which circumstances the hemorrhage would continue, giving rise to the symptoms of constantly increasing anemia, and a nephrectomy be indicated. At times, after the rupture of a kidney and the formation of a large retroperitoneal hematoma, the onset of temperature and other signs of sepsis will also lead to operative measures. The site of the incision should vary somewhat, depending to

a great extent upon the diagnosis previously made of the viscus which has been injured. If the symptoms are those of an internal hemorrhage, and it is not possible to diagnose as to whether this comes from the spleen, liver, or kidney, or from a rupture of a mesenteric artery, it will be found best to make an incision in the median line above the umbilicus, evacuate the blood, which is usually found in the shape of large clots, as rapidly as possible, and after removal of as large a quantity as can be reached with convenience through the incision, a systematic search should be made, first of the right and left lobes of the liver, then spleen, and lastly the hand inserted deep into the peritoneal cavity to determine whether there has been a laceration of the kidney, with hemorrhage into the free peritoneal cavity. In the case of ruptures of the liver, the method of treatment consists either of suture, cauterization, or tamponade. In general, it will be found very difficult to insert sutures into the bleeding liver, and the best results usually follow tamponade.

The Paquelin cautery has also been tried at times to stop the bleeding, but as just stated firm pressure through tamponning with gauze will in almost every case check the hemorrhage. If, after examination of the liver, this organ be found intact, the next viscus to be examined in the systematic search is the spleen. The majority of the successful cases of rupture of the spleen which were laparotomized were treated by splenectomy. This is a perfectly safe and easy procedure, and consists in bringing the spleen forward into the abdominal incision and ligating its pedicle after transfixing it, so as to prevent slipping of the ligature. Several successful cases of suture of the ruptured spleen and also of tamponade have been reported, but removal of the spleen seems the shortest and safest procedure. It is not followed by any ill results, since the other blood-making organs seems to take up its function. In a number of the cases of splenectomy for ruptured spleen glandular enlargement and a moderate increase in lymphocytes has occurred, but was only transient. If the spleen has been examined, and also found free of



evidences of injury, search should be made in these cases of intraperitoneal hemorrhage for injuries of the kidney in which the hemorrhages into the free peritoneal cavity.

Such cases are best treated by making a second incision over the kidney, and either tamponning it or performing a nephrectomy. It was stated above that the incision in cases of suspected intraperitoneal hemorrhage from a ruptured spleen, liver or kidney, should be made in the median line above the umbilicus. This statement is subject to modification in this respect, that if there is strong suspicion of a rupture of the liver, the abdominal incision should be made at once along the right border of the right rectus muscle, and on the other hand, if there is sufficient evidence of a rupture of the spleen, the incision should be made along the left border of the left rectus, as these organs are far more accessible to these latter incisions. It must not be forgotten that ruptures of the viscera are frequently multiple, and this fact must not be lost sight of during the operation. In one of the splenectomy cases referred to below the bleeding did not cease after removal of the spleen because there was a tear in the superior mesenteric artery.

In those cases in which we have evidences or suspicions, at least, of a rupture of the lower portion of the intestine, especially of the ileum and jejunum, or a laceration of the bladder, the best incision is one in the median line, extending upwards from the symphysis pubis. The peritoneal cavity should be opened at once, and systematic search made for a perforation of the intestine, beginning at the ileo-cecal valve, and examining the bowel toward the duodeno-jejunal flexure. At the same time, the peritoneal surface of the bladder can be examined, and if no injury of this surface of the bladder or of any portion of the small intestine is found, the incision can be closed and search made for an extraperitoneal rupture of the bladder. If upon opening the extraperitoneal tissue above the pubis in such an operation fluid is found in the cellular tissue around the bladder, it points strongly to an extraperitoneal rupture, and it will not be necessary to open the peritoneal cavity until this perforation has been dis-

posed of. The best method of treatment for a perforation of the intestine or of the bladder is to suture it by means of a Lembert suture of fine silk, in two layers, superimposed. In case the perforation involves the entire circumference of the bowel, or there is sufficient contusion to warrant a prognosis of gangrene of the bowel, a resection may be necessary. In the extraperitoneal ruptures of the bladder, if there has been considerable escape of urine into the pelvic cellular tissue, the best results can be obtained by suturing the perforation with a fine Lembert silk suture, and then inserting gauze drains around the bladder. When, as in the case mentioned below, there is a coincident rupture of the urethra, the safest plan is to make an incision into the bladder and bring the edges to the surface, and insert a drain, as in suprapubic cystotomy.

As was stated at the beginning of this article, the treatment of ruptures of the abdominal viscera does not differ in any particular from that of other lesions of the same viscera, the chief question being one of early diagnosis. My own cases consist of two of rupture of the spleen, in both of which unfortunately diagnosis was made too late; one rupture of the kidney, and two of the bladder and one of the abdominal muscles. I will only give a brief account of each case.

#### RUPTURES OF THE SPLEEN.

Case I. Boy, 16 years of age; had a monkey wrench thrown at his abdomen during a fight. Stated that he was struck over the left hypochondriac region, and there was a slight ecchymosis at this point. He fainted immediately after the accident, but recovered rapidly, and was admitted to the hospital two hours after the injury, but was not seen by the writer until ten hours after the injury, when an immediate laparotomy was made. I found upon examination before operation that he was extremely pale, pulse 96, very soft; there was tenderness and rigidity over the left hypochondriac region, and dullness in the flanks. The anterior border of this dullness changed somewhat with change of position, indicating that some of the blood was still fluid. There was considerable tym-

panites, and the tenderness was becoming more marked, all over the abdomen, indicating a beginning peritonitis. The incision was made in the left border of the left rectus muscle, beginning at the costal arch. Enormous quantities of fluid and clotted blood were removed from the peritoneal cavity, and a rupture of the lower border of the spleen extending towards the hilum was found to be the source of the bleeding. Several attempts were made to suture this, but were of no avail and splenectomy was performed. He made an uneventful recovery from the operation for the first thirty-six hours, but from that time until the time of his death, on the third day, the pulse began to rise rapidly, and the symptoms of peritonitis recurred. The autopsy by the coroner showed a septic peritonitis. The writer feels confident that if he had been able to operate upon this case within two to four hours after the injury, recovery would have followed.

Case II. An Italian, unable to speak English, was admitted to my service with the following history, which I obtained from his friends: He had been ill for two days with pain in the abdomen, which both the patient and his friends told me was most marked in the right iliac region. Pulse was 110; temperature 102°, and there was considerable tympanites. He was extremely pale. I diagnosed the case as one of appendicitis with probable septic peritonitis, and had the patient prepared for operation. Just before the latter I learned from my house surgeon that he had been told by another friend of the patient's that the condition did not start spontaneously, but that he had been run over two days before the time we first saw him. Although I felt that in this case the outlook for operation was exceedingly dark, I nevertheless felt that there was a slight chance for recovery. I made an incision over the region of the spleen, where the friend said the wheel had passed over and found in addition to enormously distended coils of intestine a large amount of clotted and fluid blood in the free peritoneal cavity. This was rapidly removed, and it was found that there was an extensive laceration of the spleen. The splenectomy was exceedingly

difficult on account of the distention of the bowel. After the pedicle of the spleen had been firmly tied and the organ removed, the bleeding still continued and seemed to come from the beginning of the mesentery at the left side of the second lumbar vertebra. I attempted in vain to insert forceps and tampons in this direction, and was compelled to desist from further operation on account of the condition of the patient, who died shortly afterwards. The coroner's autopsy showed a tear of the mesentery involving the superior mesenteric artery. This case emphasizes the importance not only of early diagnosis, but of obtaining as accurate a history as possible of the mode of injury, which latter is at times difficult in foreigners.

Case III. Rupture of the Kidney. This patient was a man 40 years of age, who was crushed between a heavy packing case which fell across his abdomen and a projecting piece of iron which pressed upon his lumbar region. When admitted to the hospital, he complained of severe pain over the left lumbar region, suffering from considerable shock, moderately pale, and pulse 100. There was a distinct swelling over the region of the left kidney, and in place of the normal resonance of the descending colon in the space between the left costal arch and crest of the ilium there was dullness, which, however, did not change with change of position of the patient. The first urine voided after the accident consisted almost entirely of blood. On account of the favorable prognosis in these cases of rupture of the kidney, under expectant treatment, an ice-bag was applied over the left renal region, and the patient carefully watched for evidences of increasing hemorrhage. He was given a dram of fluid extract of ergot every four hours. The area of dullness in the flanks did not increase during the following twenty-four hours, his general condition improved greatly, and in place of fluid blood the urine contained wormlike clots, which were passed with symptoms of renal colic. The hematuria gradually decreased; the urine was practically clear within forty-eight hours. This case was undoubtedly one of rupture of the kidney which recovered under expectant treatment.



Case IV. Extraperitoneal rupture of the bladder. The patient was a boy five years of age, who had been run over by a street car, the wheels passing across the region of the pubes. He was seen by me twenty-three hours after the injury in consultation with Dr. M. L. Goodkind, who had seen him one hour previously. Dr. Goodkind had made a diagnosis of rupture of the bladder, on account of the presence of dullness extending from the umbilicus on each side to the anterior superior spine of the ilium, so that the entire lower half of the abdomen was dull on percussion. This dullness did not change on turning the patient. Attempts to catheterize the patient were followed by the escape of a few drops of bloody urine. Pulse was 140, and the distention of the bowel interfered considerably with breathing, which was rapid and shallow. Temperature was 101°. Before proceeding to operate, I thought that I would make a final test by injecting four ounces of boric acid solution into the bladder through a catheter. The catheter was inserted and apparently seemed to enter a cavity corresponding about in distance from the external meatus, to the bladder. Four ounces of boric acid solution came back through the catheter, stained with blood. I mention this test to show how fallacious it may be, as referred to above under the head of diagnosis, and that too much reliance should not be placed upon it in making a diagnosis of rupture of the bladder. If it had not been for the presence of dullness above the pubis, and evidences of beginning sepsis, I would undoubtedly have left the case to its certain fatal outcome. However, I made an incision above the pubis, and upon opening the pelvic cellular tissue considerable quantity of fluid escaped. This had pushed the peritoneum covering the bladder up to the level of the umbilicus, and infiltrated the anterior abdominal wall up to the level of the external dullness. A separation of the symphysis pubis was found, and a perforation of the anterior wall of the bladder just opposite this fracture of the symphysis. The perforation was sutured; no attempt was made to correct the deformity caused by the separation of the pubic bone. Further exploration

showed a complete rupture of the membranous portion of the urethra, so that the bladder lay practically free in the pelvis, and the cavity into which the four ounces of boric solution used as a test had escaped was a free space beneath the pubis and in front of the bladder. The catheter had never entered the bladder at all. The bladder was brought up into the incision in the abdomen and sutured. A rubber tube was inserted into it, and the extraperitoneal tissue drained with gauze drains. A perineal section was then performed, and the catheter introduced through the intact portion of the urethra across the intervening gap, where the membranous portion had been torn, into the bladder, it being necessary to introduce it from the bladder outwards (retrograde catheterization), on account of the difficulty of finding the proximal end of the urethra. This is a far more rapid way of finding the bladder end of the urethra, and greatly facilitates the operation. The boy made an uneventful recovery, but a stricture still remains at the point of the rupture of the urethra, which it will not be possible to deal with until the boy is old enough to have sounds introduced regularly for the purpose of dilating the same.

Case V. Extraperitoneal rupture of the bladder. My chief reason for publishing this case is for the purpose of emphasizing the necessity of looking for ruptures of the viscera when least expected. A Bohemian child, three years of age, was admitted to my service, with the following history: Six days before, the child, while its mother was away from the house, had fallen from a high chair to the floor, where it was found by the mother. The mother did not observe any immediate effects, and it was only after the second day that she noticed the child did not seem as well, and that the right side of the abdomen was gradually swelling. When admitted to the hospital, on the sixth day after the accident, the temperature was 102.6°; pulse 150. The child looked septic. Examination of the abdomen showed a doughy infiltration of the skin, more or less limited in front by the median line, and extending posteriorly almost to the spine. Downwards, it

extended as far as Poupart's ligament, and upwards towards the clavicle, there being marked edema of the mammary region. The child was catheterized and clear urine obtained, three ounces each time. There was dullness over the right half of the abdomen from the Poupart's ligament to the costal arch, merging into the liver dullness. This did not change on moving the patient. Every symptom pointed to a rupture of the bladder into the pelvic cellular tissue, but the clearness and quantity of the urine were puzzling, and rather contradictory of such a tear. Although this case also seemed hopeless, I made an incision above the pubis and found a considerable distention of the bladder, and an enormous infiltration of the tissues of the anterior abdominal wall and right half of the pelvis with urine. Examination of the bladder showed a tear in all of the coats of the viscus, except the mucous membrane, just opposite the brim of the pelvis, and after sponging away the urine one could observe how it escaped through this pseudo-filter drop by drop. This is not the first case which has been described in which only a partial rupture of the coats of the bladder has occurred, the effects being equal to those in which a complete rupture occurs.

I was at first puzzled to know how this injury could have occurred, but upon remembering that the bladder in children is almost entirely an intra-abdominal organ, one can readily understand how a child of this age can have fallen with its bladder full of urine and the organ strike upon the pelvic brim opposite which found the rupture. The extra peritoneal tissue was drained, and a number of incisions were made into the infiltrated abdominal wall, but were of no avail, the child dying after a few days.

Case VI. Subcutaneous rupture of the abdominal muscles. This patient was a man 40 years of age; he was admitted to my service, after having been crushed between two street cars passing in opposite directions. He was admitted to the hospital, suffering greatly from shock, and was seen by me two hours after the injury. A diagnosis of traumatic hernia situated over the middle of the rest of the ilium had been previously made by my

house surgeon, Dr. Snyder. Over the point just described there was a tumor about the size of two fists, which was tympanitic on percussion, and which could be readily reduced into the abdominal cavity with a gurggle, similar to that obtained in the reduction of a hernia. After this manipulation a gap could be found in the muscles just above the crest of the ilium. In addition to this injury, there was a fracture of the clavicle and of the fifth and sixth left ribs. The patient had recovered somewhat from his initial shock but would not consent to operation until the following morning, fifteen hours after the injury. An incision made parallel to the crest of the ilium showed that all of the abdominal muscles attached to that crest from a point corresponding behind to the erector spinae had been torn off, and the same condition existed as far as the middle of Poupart's ligament, so that upon incising the skin one entered at once into the general peritoneal cavity, where a number of loose pieces of omentum were lying, in a cavity which had been formed through adhesions of the ascending colon to the anterior abdominal wall, thus separating the area of the injury in great part from the general peritoneal cavity. There was a slight contusion of the ascending colon. The abdominal muscles showed along their free edges evidences of extensive laceration. By means of fourteen kangaroo tendon sutures inserted in a mattress fashion, the torn muscles were brought down and anchored to the gluteal fascia as far as the anterior superior spine of the ilium in front, and from that point to the middle of Poupart's ligament they were sutured to the shelving edge of that structure, in a manner similar to that used in the Bassini operation. The patient made a rapid recovery, and examination one year after the injury shows that there is no recurrence of the hernia. This case is one of the first to be published of such extensive laceration of the abdominal muscles without external signs of injury, other than the slight hernial protrusion which upon first examination resembled somewhat a blood clot, and could only be distinguished from the latter by careful manipulation.



## Discussion on the Paper of Dr. Eisendrath.

Dr. J. L. Wiggins, East St. Louis. Mr. President: This is a subject in which I am very much interested, and I believe it is one to which we should give more attention than we have heretofore. During the past several years I have had quite a number of these cases under observation, and I have been struck with the necessity of impressing one fact upon the surgeon and general practitioner, namely, that in a case of abdominal injury where there is any question as to its nature, the patient should receive the benefit of the doubt and have an early operation, yet when we consider the fact that general practitioners have perhaps not more than one or two cases under their observation in the course of their life's work, it is not strange that they frequently overlook them and let them pass the point where an operation would be advantageous. There is one point, viz.: accuracy of diagnosis concerning which I wish to take issue with the doctor. I see no way in which an accurate diagnosis of intra-abdominal injury can be made. Many of the gentlemen will doubtless recollect the case I reported to the Society several years ago, in which there was a rupture of the liver.

You have noticed that in the description of these cases, in nearly all of them is a statement made to the effect that the patient vomited blood, yet no rational explanation is offered as to the reason. In the case which came under my observation, this was perfectly clear in tracing cause and effect. The man was struck by a heavy piece of casting; suffered slight shock; was taken to the hospital where I saw him shortly afterwards. He reacted promptly, but vomited a little blood, later, which I was not able to say definitely, came from the stomach, anyhow, the man improved until the third day, when on rising from his cot feeling perfectly well, he was suddenly seized with severe abdominal pains, followed by collapse, at which time he vomited large quantities of blood and passed about 10 c.c. by bowel.

The natural supposition in a case of this kind was that there had been an injury to some hollow viscus, that possibly a haematoma had formed in the neighborhood of the first portion of the intestine and that there had been regurgitation of the blood into the stomach, some of which passed through bowels. On opening the abdomen I found it filled with venous blood. I examined all abdominal organs eventually locating injury on anterior surface of liver. It was evident that in this instance the parenchyma was ruptured without destroying the fibrous and peritoneal covering; being reinforced by contract with the thoracic cage with probable adhesions between the visceral and parietal peritoneum; the point of least resistance was through hepatic radicles into hepatic ducts thence to duodenum. Without a knowledge of the possibility of this condition ensuing, it would certainly be difficult to arrive at a clear concep-

tion of the organ injured, previous to exploratory incision.

In diagnosing kidney injuries it is not impossible that conditions may arise which will be misleading, as occurred in a case not heretofore reported in which large quantities of bloody urine suggested kidney rupture. Exploration showed that the ureter was partly severed at pelvic brim permitting blood to pass into bladder.

It is true, these are exceptional cases, but they serve to emphasize, first; difficulty in arriving at a correct conclusion based upon objective signs; second: the necessity of exploration, irrespective of any special symptoms, except that of shock.

Dr. A. J. Ochsner, of Chicago. This subject is certainly very interesting, and the position which Dr. Eisendrath has taken is the proper one. I feel that we can reasonably say that the position he has taken will stand.

With regard to the details of carrying out the idea which Dr. Eisendrath has proposed, I wish to say a few words. A systematic plan of examination is certainly to be commended, and when it comes to making an intra-abdominal examination, I believe a further step in the system might reasonably be introduced. Usually it is possible to determine whether the injury was on the right or the left side. There are cases, especially where a man is caught between the bumpers, where this is not possible, but usually one can determine it. Then if one follows the plan which has been suggested, he is reasonably certain that an injury of one or other intra-abdominal organ has occurred, with the exception of the kidney. The reason why we need not worry about the kidney is because, in the first place, it is retroperitoneal. There are two of them, and rarely are both injured at the same time, and one is quite sufficient. Again, they are far enough away from the small intestine to be reasonably free from sepsis; but let us suppose that injury has taken place, the suggestion of making an incision as nearly over the point of injury as possible is a good one, providing we limit it in this way, namely, make an incision which is capable of securing extensive inspection of the intra-abdominal organs, and at the same time leaving the abdominal wall in a condition in which it can be closed without too much prolongation of the manipulations. It must be remembered that these patients are already in shock.

Suppose the injury is on the right side. If we make our incision in the outer edge of the rectus abdominis muscle, high up, all we have to care for is that the incision is longitudinal, that we split the edge of the muscle, and when we have passed through the muscle we should bear in mind the location of the epigastric muscles, as by so doing we cause no injury. We can make the incision from the sternum down to the pubis, lay open the whole area, and be in a position to close it in a few minutes very readily. We are in a position in which we can

drain without the danger of hemorrhage by simply making a little slit in the muscle, passing through it a dilator, stretching the hole and inserting a drainage tube through it, and then sew up the abdominal wound, without danger of hernia, and without danger of prolonging the operation.

Suppose the injury is on the left side, the same thing can be done through the left edge of the left rectus abdominis muscle. We insert a drainage tube down in the manner I show you, and whatever fluid there may be will drift towards the drainage tube.

One more point as to system. I wish to refer to the examination of the small intestine. When we first suspect an injury of the small intestine, we always take a long time to determine the location of the injury, which is not right. There are two fixed points in the small intestine, one point to the left of the median line, directly underneath the mesentery of the transverse colon, and another one in the right inguinal region, where the small intestine enters the cecum. The more common point of injury is at the lower portion, so that if one should suspect an injury of the small intestine, he should begin low. He can run up and have the whole area examined without causing any great amount of traumatism to the structures. He need not make any unnecessary manipulation. He can make his manipulation very simple, so that it is unnecessary for him to traumatize any of the intra-abdominal organs in so doing.

One other point. When we get these patients late, at a time when peritonitis already exists, they are almost always hopeless, but if this one little principle is borne in mind by the practitioner who sees these cases early, the form of peritonitis could be limited very greatly, and it is this: Peritonitis comes from infection from the alimentary canal. The colon is rarely or never injured by crushing injuries. Infection does not come from the colon, but from the small intestine, consequently if in these cases the small intestine is kept empty from the first, infection would not be likely to occur, because the omentum would wind itself around the small intestine, and even if there were injury, it should not amount to much. I have had an opportunity to determine this in several cases, therefore in the cases of intra-abdominal injuries in which the physician does not feel competent to go in, although he has made an examination, and in cases in which a competent person is not available, this precaution should be taken: The stomach should be emptied as soon as there is regurgitation from the small intestine into the stomach; then the patient will still have a chance, although the proper treatment cannot be applied.

**Dr. Denslow Lewis** of Chicago. I desire to add a word of commendation and of appreciation for this excellent paper. Later in the session, with your indulgence, it will be my privilege to give some thoughts on immediate abdominal section, in which I shall hope to show the necessity for operation in the variety of injuries to which Dr. Eisendrath has called our

attention. The statistics he gives are valuable and most suggestive.

If I understood Dr. Eisendrath correctly, he said that with prompt operation perhaps 90 per cent. of the patients who sustained these injuries can be saved, but without it 90 per cent. of them die. They show the value not only of accurate diagnosis, as far as that is possible, in this class of injuries, but they show more. They show even in such cases where the diagnosis is impossible it is advisable to make a laparotomy, because no one will say today that an aseptic abdominal section adds materially to the danger of the case. I think we can say in most of these crushing injuries, where the injury is sufficient to produce extreme shock, even if we do not diagnose internal hemorrhage, but an injury sufficient to fracture the pelvic bones, or a serious injury to the abdominal wall or the abdominal contents, is often accompanied by internal hemorrhage, which we cannot diagnose, and I think statistics show an increased experience will demonstrate in some instances that it is advisable to make abdominal section.

I have enjoyed the paper very much indeed. It is a class of paper we ought to have presented more frequently, and I wish to express my commendation of it.

**Dr. J. R. Pennington** of Chicago: I would like to ask Dr. Eisendrath to tell us in closing what the general practitioner is to do in such cases, or what palliative or temporary measures he can utilize to advantage in case a man, for instance, is kicked by a horse.

**Dr. M. V. Gunn**, of El Paso, Ill. This is one of the most interesting papers I have had the pleasure of listening to, and it is one that comes directly home to the country practitioner. It puts every practitioner in close touch with these injuries, and points out how essential it is for the practitioner to carefully observe and study his cases, in which a trauma or violence has been sustained.

The essayist spoke of what the physician should do under the circumstances. My advice is that if I strongly suspicion an abdominal injury in any case, one of the first things I would do would be to call in a first-class surgeon, and do it as quickly as possible.

**Dr. Eisendrath** (closing the discussion.) In the first place, I desire to thank the gentlemen for discussing my paper, and presenting so many excellent points.

In reference to the remarks of Dr. Wiggins concerning the case of rupture of the liver in which a large quantity of blood was not only vomited, but passed through the bowels, I believe a possible diagnosis could have been made in the first forty-eight hours if he had adhered to this systematic method of examination. The large amount of venous blood which he found in the peritoneal cavity could have undoubtedly been detected, as in the spleen case reported. A point in the diagnosis is the presence of dullness in the flanks or the dependent portions of the abdomen in general. Of course, there are some cases in which it is not possible to do this, and those are the ones in which the abdomen



is very rigid as the result of beginning peritonitis. But in the great majority of cases we can.

With reference to the suggestions made by Dr. Ochsner, I think they are exceedingly valuable, and were the ones which I carried out in both cases of rupture of the spleen. I have not been so fortunate as to have up to the present time a case of rupture of the intestine. However, if I should suspect such a case, I should certainly follow his suggestion, making an incision along the right border of the right rectus muscle, beginning at the ilium, and exploring it by the duodenojejunal flexure. If I suspected a rupture of the bladder, I would adhere to the median line incision.

In regard to the proposition of limiting as much as possible the extent of peritonitis, I believe that the best reply which I could give to Dr. Pennington's question is that it coincides fully with the view which I think ought to be encouraged, namely, that every general practitioner when he meets with a case of that kind and makes a diagnosis of intra-abdominal injury, or recognizes that there has been a rupture of the intestine or of the liver, the best plan for him to follow is this, that if he suspects an intestinal injury he should wash out the stomach and place the bowels at rest by the method suggested by Dr. Ochsner in appendicitis, which is an extremely valuable thing to do. In addition to that it would be well to place an ice bag over the region of the spleen, the liver or kidney, and administer internal small doses of ergot, giving food *per rectum* only. Then, as soon as possible, transport the patient either to a hospital, or call in some surgeon, as has been suggested by Dr. Lewis, and the preceding speaker, to aid in the diagnosis and treatment of the case. It is much better to do a laparotomy, even though one finds nothing except a slight omental lesion or something of that kind, than to undertake laparotomy when there is not one chance in a hundred of success.

## TUBERCULOSIS OF THE NERVOUS SYSTEM.\*

BY JULIUS GRINKER, M. D., CHICAGO.

In view of the great interest that is recently being given to the tuberculosis question, I consider it timely to review some of the commoner forms of tuberculosis of the nervous system. The subject, however, is too extensive to be compressed in a half hour's discourse. I shall, therefore, confine myself principally to diagnosis.

Tuberculosis of the nervous system is almost always secondary to tubercular disease

in some other organ. It sometimes appears to be primary, especially when it affects robust individuals, and it would seem from the reports of reliable observers that a few cases of primary tubercle of the brain have been seen. Possibly even in these cases the primary source of infection has been overlooked, as a most careful search is often required to detect the primary depot. The joints and bones, the kidneys and lungs, the peritoneum and intestines, must be investigated, besides the various glands in the body, some of which are inaccessible to direct examination. That the nose and ears, through the naso-pharynx, constitute avenues of infection is daily becoming more evident; it has also been stated that bacilli may pass through the lungs without leaving obvious recognizable lesions. The wonder is that there are not more cases of brain tuberculosis in the presence of so many opportunities for its development.

Brain tuberculosis occurs either as an affection of the membranes, or in the form of the so-called solitary tubercle. The latter name is really a misnomer as tubercle appears multiple in many cases. According to Allen Starr, tubercular tumors constitute the great majority of all tumors of the brain and occur with greatest frequency in childhood. They vary in size from a pea to a hen's egg, and their place of predilection seems to be the posterior fossae. Thus, we often find them in the substance of the cerebellum, the pons and medulla. For this Bruns finds an explanation in the frequent tubercular affection of the deep cervical glands, which are certainly more closely connected with the cerebellum and pons than with the cerebrum.

The *symptoms* of tubercular tumors of the brain do not differ essentially from those of other forms of tumor and it is not my intention to enter into the symptomatology of cerebral neoplasm. However, the following points of difference, according to Allen Starr, might be emphasized: Tubercle may remain latent for a long time and tuberculomata have been discovered post-mortem that never caused symptoms during life. Remission in all the symptoms for appreciable periods of time belongs to tubercular tumors; also the

\*Read at the meeting of the Chicago Medical Society June 1, 1904.

tendency to appear multiple. The latter fact accounts for the diversity of symptoms found in tubercular tumor, which is not commonly observed in the other varieties. A localized meningitis may give rise to the same symptoms as a small tumor and differentiation be impossible. A gradual subsidence of symptoms with recovery points to meningitis rather than to tumor.

Of the membranes of the brain the dura is but seldom the seat of tuberculosis and only when a disease-process extends thither from the overlying bone or from the underlying soft membranes.

*Tuberculous Leptomeningitis.* The symptoms do not differ from meningitis caused by other germs, except that the onset and course are more gradual and have a somewhat milder aspect, although the event appears to be uniformly fatal. In the tubercular variety of meningitis the base of the brain is most frequently affected and there is usually a rapid development of inflammatory exudate in the ventricles. The disease seems to affect with greatest frequency children from 2 to 12 years of age. The reason may be that the primary sources in the way of scrophulous or tubercular glands are commonly present in children, while in older persons glandular and bone tuberculosis is comparatively rare.

Briefly reviewing the pathological changes of tubercular leptomeningitis, we may emphasize the fact that they are mostly localized at the base of the brain; about the optic chiasm, the interpeduncular space, in the Sylvian fissure; also about the pons and medulla, hence it is often called basillar meningitis. The tubercular nodules seem to follow the pial vessels and to surround them. In addition a turbid exudate spreads into the meshes of the pia-arachnoid. Leucocytes also infiltrate the arachnoidal spaces and the tissues of the pia. Fibrinous threads and large epithelioid cells are often found. The tubercular nodules infiltrating the vessels and walls undergo caseation rapidly, even if the disease has been of but a few days' duration. By way of the vascular sheaths the process may extend to the superficial layer of the brain.

Caseation leads to rupture of blood vessels, with small hemorrhages into the brain tissue, causing softening of the brain substance. We then have in addition a cerebritis and the entire process may be called a meningo-encephalitis. By means of the choroid plexuses, which are continuations of the pial vessels into the ventricles, we have an extension of the disease into the ventricles with resulting granulations of the ependyma. These may often be recognized by the naked eye to be miliary tubercles. Microscopically they invariably show typical tubercle structure in which bacilli can also be demonstrated. The ventricles often become filled with a turbid exudate which distends them enormously, causing acute hydrocephalus and symptoms of pressure. Bearing in mind these few pathologico-anatomical data we can easily reason out some of the otherwise perplexing symptoms of the disease.

Tubercular leptomeningitis has been divided into several stages, but as a matter of experience there is no sharp and dividing line between any of its stages. As a rule the child's health has been failing for some time. There has been a change of disposition with marked depression. The child suddenly will stop in its play, run into a corner or hide itself behind the mother's apron, put its hand to the head and groan with pain. The tendency to hide from the light and noise may even thus early be an expression of the oncoming hypersensitiveness of the special senses. The sleep may be disturbed by wild dreams and is restless; there may be grinding of the teeth and shrill outcries. Slight cough, some wasting and general ill-health may have been noticed previously. Some fever, headache or vomiting may have been observed; perhaps there are some convulsive twitchings. At this stage a diagnosis may be impossible. One will think of simple fever, gastro-intestinal disturbances, typhoid fever and a variety of other conditions. It is well to bear in mind the possibility of tubercular meningitis in all cases where we find glandular enlargements and unhygienic surroundings. The family history must be carefully probed for a tendency to tuberculosis and the personal history



of the patient must not be neglected. Particularly will we inquire for the previous existence of a chronic cough and measles, as we know these diseases to especially favor tubercular brain disease.

Somewhat later in the course of the disease the diagnosis is not so difficult. There may occur an optic neuritis, or tubercles may be seen upon the choroid. The so-called "hydrocephalic cry" may be present, viz.: the child while asleep utters a most piercing cry which calls the mother to the bedside, who thinks the patient in agony and finds the child slumbering quietly or having slight twitchings in the facial muscles with, perhaps, a frown upon its forehead. In olden times every frown in a child was considered characteristic of brain mischief, which was of course a mistake. The head may now be retracted and show well-marked rigidity when passively flexed. This symptom is attributed to the extension of the disease over the medulla and later to the cervical cord membranes.

At this time involvement of the cranial nerves at the base of the brain gives symptoms of irritation, such as twitchings in the face or in the ocular muscles, perhaps vagus-accessorius involvement, Cheyne-Stokes respiration, a slowing of the pulse, irregular fever, boat-shaped abdomen, projectile vomiting and a multitude of other symptoms. We may have hemiplegia, monoplegia, or a unilateral convulsion. Most of the above mentioned symptoms are said to belong to the stage of *irritation*.

Following this there may be a remission of all the symptoms and parents and physician may give themselves up to the sweet delusion that the patient is improving, for he is sitting up and playing the same as usual. But this temporary improvement is only too often a signal for the onslaught of the last, fatal act of the disease, called the *paralytic* stage. The symptoms at this time are due to destruction of tissue, whereas in the previous stage there was irritation and pressure. Now we have ocular paralysis, strabismus, hemiplegia, relaxed sphincters, irregularly dilated pupils. The child, instead of tossing

about, has become quiet, has developed distinct Cheyne-Stokes breathing and enters the stage of coma from which it never wakes. High temperatures and convulsions may close the sad scene.

Such, in general, is an outline of the disease which is considered fatal almost without exception.

An analysis of the symptoms of tubercular meningitis will enable us to divide them into *general symptoms*, caused by pressure, and *focal symptoms*, caused by direct implication of nerve-tissue.

Among the *general* symptoms must be mentioned: headache, fever, vertigo, vomiting, slow pulse, disturbance of the respiratory rhythm, jactitation, convulsions, hyperaesthesia, delirium, coma, involuntary sphincter-action. As standing on the border line between general and focal symptoms may be regarded the trismus, grinding of the teeth, rigidity of the neck muscles and spasticity of the extremities.

*Headache* is a very constant symptom and may be caused either by direct pressure of the exudate upon the nerve-filaments of the dura, or else, indirectly, by the fluid from within the ventricles.

It was found by experimenters that pressure in the brain of 70-80 m.m. Hg. gives rise to *pain*, while a pressure of 80-100 m.m. Hg. gives rise regularly to *convulsions*. These are most likely due to anemia of the motor areas and are consequently analogous to those seen in animals bled to death. The convulsions occur before the slowing of the pulse has taken place. A still greater rise of brain-pressure causes a *retardation of the pulse* which is rarely absent in meningitis, particularly in the beginning, and is probably due to stimulation of the vagus centre in the medulla. When pressure becomes still greater, as it usually does in the last stages of meningitis, the pulse becomes rapid and irregular, owing to paralysis of the vagus centre, and this is usually of fatal omen.

*Respiration* loses its regular rhythm rather early in the course of the disease and is the result of a moderate amount of brain pressure; when the pressure rises still higher and

when coma has already supervened, respiration is deep and slow; and when the pressure has become still higher and if the retarded or vagus pulse comes on, respiration becomes irregular and at times ceases altogether. When in the further course of the disease vagus paralysis manifests itself by the acceleration of the pulse, the respirations become labored (Cheyne-Stokes) and finally cease.

The *clouding of the sensorium* is probably also produced by pressure on the cortex. *Vertigo* and *vomiting*, particularly when the patient is placed in the upright position, may be attributed to an increase of intra-cranial pressure acting upon cerebellum and pons.

The *pupillary anomalies* may be caused by pressure on either the cortical or the nuclear centre of the oculo-motor nerves. When a difference in the size of the pupils is observed, either the centre or the nerve-trunks are unequally involved in the exudate.

The *optic nerve* derangements, such as optic neuritis, etc., so commonly observed in tubercular meningitis, may be explained by the accumulation of fluid in the third ventricle, causing pressure upon the optic chiasm from above, or else by direct involvement of the optic nerves.

The *rigidity* of the neck muscles is probably caused by irritation of the nerves supplying them, through meningeal thickenings, or by pressure from a distance.

Into the same category, as having similar causes, might be placed the *trismus*, *grinding of the teeth*, and the *scaphoid abdomen*, which symptoms are all produced by spastic contraction of muscles.

Besides these motor symptoms there is *hyperaesthesia* of skin and muscles, also of the special senses, such as photophobia and intolerance to noises.

The *reflexes* are exaggerated in the beginning of the disease, later they are either reduced or entirely absent. The Kernig sign is often present either unilaterally or bilaterally. Only its presence is of diagnostic value.

The *Kernig Sign*. In meningitis, according to Kernig, if the hip be placed so that the thigh is at a right angle to the body, the

knee may not, without undue force, be extended in some cases beyond  $90^\circ$ , never to the point of full extension and not farther than about  $135^\circ$  or  $140^\circ$  in any case. With the hip extended, the knee may be readily straightened. Thus, the ability readily to extend the knee, when the hip is flexed at a right angle, would speak strongly against the presence of meningitis. This sign is supposed to depend upon inflammation of the meninges and consequent irritability of the nerves, which is increased by the stretching of the lumbar and sacral roots when the individual is in the sitting posture, so that the attempt to extend the knee is sufficient to provoke reflex contracture of the flexors of the leg. Such reflex contracture is not produced by extension of the knee when the thighs are extended upon the pelvis.

*Vasomotor disturbances* are common, so that a light stroke upon the forehead or chest may leave a red streak for some time. This is the so-called *tâche cérébrale* of Trousseau, which was formerly regarded as pathognomonic of tubercular meningitis, but we now know that it occurs in other nervous diseases.

*Focal symptoms* are caused by the accumulation of tubercles in certain cortical areas with subsequent destruction of brain-substance and by direct involvement of the cranial nerves. Most important of the focal symptoms are the cranial nerve paralyses, especially that of the third, strabismus, pupillary differences, myosis or mydriasis. Hemiplegias and aphasias that are occasionally met with, may be due to thrombotic blocking of the blood-vessels or to tubercular deposits pressing on the cortical motor areas. Tubercles in the choroid, when present, are of the greatest diagnostic import.

In typical cases the diagnosis is usually easy, but there are atypical cases that are most difficult to diagnose. It is in these cases that *Quincke's lumbar puncture* offers a diagnostic measure of the most useful kind. Although originally recommended for therapeutic purposes, this method has of late come to be utilized more often in diagnosis. It consists in obtaining a small amount of cerebrospinal fluid by



means of a puncture through the spinal membranes and subjecting it to a chemical, microscopic and bacteriologic examination.

The *technique* is as follows: The patient is preferably placed in the recumbent posture on the left side, with the body strongly flexed in the lumbar region. The puncture may be made with a long aspirating needle between the second or third or the third and fourth lumbar vertebra, either in the median line or a few millimeters outside of it. If the puncture be made in the median line, it should be at the mid-point between the spines in children. Fluid will usually be reached at a depth of 2 cm. In the adult the puncture should be made at a point opposite the middle third of the lower border of the spine above, on account of the downward inclination of the spines, and the needle should slope towards the median line so as to avoid injuring some twigs of the cauda equina which are situated more laterally. The fluid, which is reached at a depth of 6 cm. in the adult, should not be aspirated, but allowed to flow gently into a previously sterilized vessel. No anaesthetic is required. An ethyl-chloride spray might be advantageous. Of course perfect asepsis must be observed. For diagnosis only a small amount of fluid is required.

The normal pressure is, according to Quincke, 40-60 mm. water, though he only considers an increase to over 150 mm. to be pathologic. Under some pathologic conditions the pressure may increase to 700 mm. Roughly, we can estimate the pressure by the rapidity of the flow, so that if in a short time 30-40 cm. of liquid escape we conclude that there is a pathologic increase. The increase of quantity and pressure occurs under various conditions, especially in cerebral tumor, tubercular and serous meningitis, chlorosis, oedema of the brain.

From the physical appearance of the fluid alone we can often make a correct diagnosis.

The fluid is cloudy in purulent meningitis. It may also be cloudy in the tubercular variety. A purulent condition is especially characteristic of the different forms of purulent meningitis. If no pus appears to be present, the polynuclear leucocytes will some-

times reveal a purulent condition. In tubercular meningitis the lymphocytes predominate, while there may be few polynuclear leucocytes present. The freezing-point of cerebrospinal fluid from tubercular meningitis is lower than that of normal liquid.

The bacteriologic examination is extremely important. We may find streptococci and staphylococci in purulent meningitis, pneumococci and the meningococcus intracellularis of Weichselbaum in epidemic cerebrospinal meningitis, tubercle bacilli in tubercular meningitis, especially in the flocculi. It may be necessary to centrifuge the fluid. If the fluid be sterile, we occasionally get positive results when cultures are made.

Occasionally sterile cerebrospinal fluid injected into a rabbit or guinea-pig develops typical tubercle. It is certainly of advantage to use lumbar puncture in any doubtful case, as the diagnosis can in this way often be definitely settled when other means fail. In the majority of instances, however, a lumbar puncture is only confirmatory of the diagnosis previously made.

In my opinion lumbar puncture is not resorted to often enough in private practice; while physicians no longer hesitate to use an aspirating needle in the pleural cavity, the insignificant operation of a lumbar puncture is still looked upon as a grave procedure.

In doubtful cases a *blood examination* will often decide the diagnosis between a *purulent* and a tubercular meningitis. According to Grawitz and Tuerk, there is a leucocytosis in the purulent variety and only slight increase of leucocytes, if any, in tuberculosis.

Tubercular meningitis is under certain circumstances easily mistaken for cerebral tumor. Of course this is not likely to occur in the ordinary form of tubercular meningitis with acute hydrocephalus which runs a course of from 4 to 6 weeks. But there is a variety of tubercular meningitis, according to Allen Starr, in which the diagnosis from tubercular tumor is impossible, the symptoms being so similar. The following, however, may serve as differential points. Headache is more severe in meningitis and more continuous. There is greater hypersensitiveness to

light, sound, or touch in meningitis, and optic neuritis develops less frequently, less rapidly and with less intensity than in tumor. Tubercles upon the choroid are found more frequently in meningitis than in tubercular tumor.

*Caries of the Spine.* Considering the frequency of Pott's disease of the spine it is perhaps surprising that so few cases present symptoms of cord disease. Pathology offers a satisfactory explanation. If the spinal dura becomes involved at all, the tuberculous deposit occurs between bone and dura mater, producing a pachymeningitis. In many of these cases the dura mater itself protects the cord from direct infection, as its inner surface usually remains smooth and clean. Occasionally, however, all the membranes of the cord are fused into a dense mass and cause compression of the cord. We will then have an ischaemia, a lack of general nutrition at the point of pressure and later, perhaps, secondary degenerations. As is well known, pain and tenderness on pressure over the affected vertebra are early symptoms. The slightest jar increases the pain and the spine is held rigidly extended, in order to prevent movement of the diseased bones upon one another. Later, kyphosis and burrowing abscesses may develop. When the dura is involved so that the cord is compressed, we will have disturbances of sensation and of motion, and the well-known picture of compression myelitis, or spinal meningitis, if the membranes only are involved. Many a so-called intercostal neuralgia was only a symptom of compression of the posterior dorsal roots by a tubercular infiltration.

Tubercular spinal meningitis without cerebral meningitis is extremely rare, except secondarily to disease of the vertebra.

Solitary tubercles are occasionally found throughout the cord, but the usual form is a caseous mass within the cord which subsequently extends from within outward.

*Multiple Neuritis* of the most aggravated type has been observed in tuberculosis. These patients who are *in extremis* with wasted bodies and cavities in the lungs can barely be touched and suffer most excruciating pains. They often beg for morphine or death.

*Functional Nervous Disturbances Due to Tuberculosis.* Normally our state of feeling is a correct index of the state of our physical condition. In tubercular patients this is often reversed. Even the old physicians have long ago recognized the general hopefulness in the phthisical. Patients who are coughing and spitting, sweating and suffering from colliquative diarrhoeas, will tell the doctor, that if they could only get rid of their cough, they would be well again. This so-called feeling of euphoria is so common in the tubercular that it is believed by some to be one of the symptoms of phthisis.

As regards the *neuroses* it cannot be denied that the relation between tuberculosis and the so-called functional neuroses is too close to be a mere coincidence. Even if we do not accept Dr. J. Mays' theory, that tuberculosis is a nervous disease, we cannot ignore the fact that in some families phthisis seems to be displayed by the neuroses among some members. "Thus, for instance, in a tubercular family we see, of the children, one dying from tubercular meningitis, another has the ordinary lung trouble, a third may escape altogether, the fourth may be neurasthenic, hysterical, or even a lunatic. According to Prof. Gasset, the last escaped the diathesis in appearance only. He is tubercular like the rest, though he has no tubercles anywhere. It is his neurosis which represents the diathetic affection." Whatever we may think of this hypothesis, it is certain, however, that a history of tuberculosis is often found in the family or personal history of those affected with the neuroses.

That insanity and tuberculosis frequently occur in one individual has been proven by large asylum statistics. Kraepelin, the great German alienist, says: "In tubercular patients we often see acute insanities with confusion, hallucinations, delusions, depressed or exalted moods, insomnia and excitement, which resemble the acute exhaustion psychoses of typhoid and articular rheumatism. Considering, however, the rare occurrence of phthisical insanity we may assume the psychopathic predisposition to play an important part in the etiology. In some instances alcohol, so frequently taken



by tubercular patients, may be the important etiologic factor. Finally, meningitic processes may cause the nervous and psychic states of irritation."

Among the first symptoms of these tubercular insanities is excessive irritability and suspiciousness quite unnatural to the individual. The patient may for a long time be considered nervous, until tuberculosis is disclosed by careful examination. The obstinate refusal to take food, which is common among these patients, owing to their delusions of poison, may have its anatomical explanation in irritation of the pneumogastric filaments, the nerve that supplies the stomach as well as the lungs.

The prognosis is fatal in those young subjects who develop phthisis slowly but surely, who present on the physical side emaciation, haemoptysis and diarrhoea, and obstinately refuse to take food for fear of poisoning. It is also a matter of record that tuberculosis kills a large percentage of insane patients.

It appears almost superfluous to state that the prognosis of tuberculosis of the nervous system is extremely unfavorable.

Under *Treatment* I would say, paradoxical as it may sound, the treatment is the *diagnosis*.

Let us hope that the movement for the prevention of tuberculosis, which is at present raging in an epidemic form, both here and abroad, may accomplish something in the way of prophylaxis. In the meantime it is the duty of every conscientious physician to have a sharp outlook over every possible avenue of infection in the human body and to engage in combat with the enemy long before it has reached that inner citadel, the frail human brain.

1106 Reliance Building.

Dr. A. J. Overhalt a former resident of Taylorville, died suddenly at his home in Solida, Colorado. He was in his 65th year.

#### Heard After Meeting.

"I got a idea," said Brother Williams, "that we kin all make heaven on earth."

"Don't you tell dat ter de congregation," said Brother Dickey. "I done bought an interest in a undertakin' establishment!"—Atlanta Constitution.

#### SOME REMARKS ON TUBERCULOSIS IN CHILDREN WITH REPORTS OF TWO TUBERCULOUS AND TWO NON-TUBERCULOUS CASES THAT ILLUSTRATE POINTS IN DIAGNOSIS.\*

BY ROBERT H. BARCOCK, M. D., CHICAGO.

Instances are so numerous in which I am called on to examine young children suspected of being tuberculous that I have decided to emphasize a few facts which although well known appear not to be generally remembered by physicians when requested to pass on the condition of a child's lungs.

That tuberculosis is of frequent occurrence in children under ten years of age is plainly shown by statistics. Thus according to Cornet, Simonds, Schwer and Bolz found out of 2,447 autopsies on children under ten years, dead of all diseases, 362 instances of tuberculosis, or 22.93 per cent. Divided up into smaller periods the figures were as follows: 4.5 per cent were tuberculous under one year; 20 per cent from 1 to 5 years and 35 per cent between the ages of 5 and 10. Mueller's percentages likewise given by Cornet are as follows: Of 426 autopsies under the age of ten 115 or 23.36 per cent were tuberculous, and of these 6.1 per cent fell under one year; 26.8 per cent from 1 to 5 and 37.2 per cent between the ages of 5 and 10.

Jacobi states that in ten hundred and forty-five autopsies made in the New York Foundlings Hospital (Northrup) and the Babies Hospital, "tuberculosis was found in fourteen per cent: altogether one hundred and nineteen cases." These and similar statistics demonstrate the frequency of tuberculosis in infancy. "From the first to the fifth year it is the same."

Holt states that of 500 autopsies on children in Munich, Mueller found 40 per cent tuberculous, a higher percentage, Holt thinks, than exists in this country, as shown by the statistics cited by Jacobi.

The relative frequency with which the various organs are affected is also interesting and

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instructive. Not to weary you with figures it may be stated in a general way that in young children the primary seat of tubercle is in the bones, joints and lymph glands (Jacobi). That the lungs eventually become affected is shown by Holt's figures, viz.; of 119 autopsies the lungs were involved 117 times. This is accounted for by the fact that the lungs become diseased secondarily to tuberculosis of the bronchial glands (Fraenkel et al). In a general way, it may be stated that the organs most frequently presenting clinical evidence of tuberculosis are the lymph nodes (bronchial, cervical and mediastinal) the lungs, the cerebral meningies and the intestines, liver, spleen and kidneys being also frequently involved because of the great frequency of miliary tuberculosis.

In infants, especially under one year, the disease manifests itself by symptoms closely resembling marasmus, and if the lungs become involved, it is secondary to tuberculous invasion of the lymph nodes and in consequence of the antrum of infection being in the intestinal tract. This consideration, together with the observation that the disease invades the lungs through the bronchial glands, at once raises the vexed question concerning the mode of invasion. Jacobi and Brügge, express the belief that the lungs most often become tuberculous through aspiration of bacilli and cite the involvement of the bronchial glands in proof thereof.

Behring on the contrary maintains that the germs gain access through the intestinal tract, consequently by the food and not by respired air. The infection may remain dormant for many years and declare itself after the individual has suffered a reinfection. His opponents argue that were the intestines the avenue of entrance bacilli should be discovered in them, which they never have been. Ravenel's experiments on fasting dogs, however, appear to prove conclusively that tubercle bacilli may be absorbed from the intestines and pass directly into the chyle and mesenteric lymph glands, leaving the intestinal walls free.

By whatever route the bacilli reach the bronchial and intra-pulmonary lymph nodes,

it is the fact of their predominant involvement in young children, which explains the clinical appearances.

Under the age of 7 and especially 5 the bronchial glands are the chief and according to Fraenkel the earliest seat of the affection. From here out, favored by inflammatory adhesions of the pleural surfaces the disease spreads, not to the apex as in adults, but to the middle portion of the lung and to the lower lobe.

Involvement of the lower lobe is sometimes brought about also by penetration of a bronchus by a caseous gland, and the aspiration of its cheesy contents into the lower portion of a lung. The preference of the tubercular process in young children for the parts of the lung surrounding the hilus is explained in part by Birch-Hirschfeld by the fact that in them the direction of the bronchus leading to the apex is less vertical and that the greater mobility and elasticity of the thorax favors more energetic respiratory movements, and hence better ventilation of the apex. Certain it is at all events, that in children under 7 and still more under 5 the apices are not the areas of predilection in which to look for changes due to tuberculosis.

Relative to this recognized fact Jacobi says in effect that when dullness and bronchial breathing are found at the apex of a young child, they are generally due to a chronic interstitial thickening, which dates back to some former attack of bronchitis. Accordingly, when pulmonary tuberculosis is suspected in a child of tender years, it is not the apex to which attention is to be especially addressed, but the bronchial gland area, situated at the back between the second and fifth dorsal spines, the middle lobe on the right side, the middle portion of the left lung and both lower lobes. One is also to study the condition of the lymph glands, in particular the cervical and mediastinal, and to look for localized or unilateral diminution or suppression of breath sounds which may suggest caseation of some of the intra-pulmonary bronchial nodes and compression of a bronchus.

This investigation of the lymph glands is of the utmost importance since tuberculosis



of the lungs in these young patients is in the overwhelming majority of cases, secondary to glandular tuberculosis.

Another consideration of the very greatest clinical significance is the liability of young children of miliary tuberculosis either acute or sub-acute, in which cases the pulmonary signs are very apt to be those of general bronchitis with obscure areas of broncho-pneumonia. In these instances the lymph nodes are the first affected from these. Bacilli, are either discharged directly into the blood vessels through perforation of their walls or are carried by the lymph stream into the duct and by means of it throughout the body.

From the foregoing it is clear that the clinical picture of tuberculosis in children below the age of 5 and perhaps 7 years is likely to be different from that of the adult. The lungs are not the organs primarily affected and hence when these present signs of tuberculous disease, it may be regarded as a comparatively late manifestation of the tuberculosis. I also wish to repeat for the sake of emphasis, that when pulmonary tuberculosis is suspected in children of tender years, examination should not be confined to the apices but must include careful investigation of the middle and basic parts of the lungs and the various lymph nodes so far as they are accessible to examination.

Case 1. In December, 1903, Dr. Kaiser, of Somonauk, Ill., brought to me a farmer's daughter of 7 years, who presented symptoms, that rendered him suspicious of tuberculosis. The child had had pneumonia in the January preceding and since then had not been well. She had especially run down during the fall. The symptom which gave especial uneasiness to the mother was cough, which it was stated, was very troublesome at night. The expectoration, if any, was swallowed.

Examination showed a well nourished girl without fever or respiratory embarrassment. She had a small bunch of adenoid growths and the cervical glands beneath the inferior maxilla were enlarged and indurated. Other glands of the left side of the neck were palpable but small. There was no dullness in the bronchial gland area between the second and

fifth dorsal spines. Pulmonary resonance was impaired in the right supra-scapular region at the left apex both above and below the clavicle and at the left base outside of the anterior axillary line.

Over these areas the breath sounds were harsh and intensified somewhat, but not distinctly bronchial and there were no rales. In view of the mother's statement that the child had seemed to take cold a week or two before, I was unwilling to pronounce the disease tuberculosis and advised certain treatment consisting largely of open air and the return for another examination if improvement was not satisfactory.

The fore part of April Dr. Kaiser brought the child back with the statement that she had seemed to improve for a time but had shown distinct failure during the past two weeks. Examination now disclosed increase of dullness with bronchial breathing at the right apex behind, slight loss of resonance at the right posterior base, somewhat increased dullness at the left apex and at the corresponding base posteriorly, a considerable patch of pronounced dullness with diminution of breath sounds. No definite rales were detected. The liver was palpable for a distance of about an inch below the costal margin, and I thought I was able to detect the tip of the spleen. Otherwise the abdomen was negative, tenderness not being presented and no lymph nodes being appreciable. A small amount of sputum was obtained and showed two tubercle bacilli. Temperature was 99.9 F.

These findings placed the nature of the case beyond question. It was one of early pulmonary tuberculosis, but what was the mode of lung involvement? Was the primary infection glandular and that of the lungs secondary? Or had the lungs been primarily invaded through inhalation of bacilli, as Brügge, Jacobi and others believe is the case in opposition to von Behring?

The situation and distribution of the pulmonary signs seem to be contrary to the latter view. In the adult the upper lobe first becomes affected and the process extends from there downward by predelection along the inner borders and down the back more

markedly than in the front. In this instance the areas were scattered, the right apex and right base behind, the left apex in front, and the base of the left lung laterally and behind being the areas showing signs of involvement. On the whole therefore the path of invasion seems to me to have been through the lymph channels.

Case II. Quite different, however, is the case of a thirteen-year-old Jewish girl recently brought to me by Dr. Josephson, of Chicago. This child had been seen by the doctor because of several haemoptyses and a few days thereafter was presented in my office. In this instance there was extensive and pronounced infiltration of the left upper lobe both front and back as shown by dulness and bronchial breathing. Near the right base in front and behind was impaired resonance with diminished broncho-vesicular respiratory murmur. Definite rales were wanting and the temperature was not much elevated. Superficial glands were not much enlarged and there was no dulness in the bronchial gland area.

In this case I am inclined to attribute the slight changes at the right base to aspiration of blood perchance during the haemoptyses, or of bronchial secretions and not to regard them as indicating the glandular mode of infection. This child is old enough to have passed out of early childhood and therefore would be likely to present changes in the lungs similar to such as are seen in the adult.

The next two cases are narrated because their contrast to the foregoing ones appear to me especially instructive. They illustrate also the necessity of a careful history and of a due appreciation from the standpoint of diagnosis of the pathology of tuberculosis in young children.

Case III. Feb. 1, 1904, I saw in consultation a slender boy of  $7\frac{1}{2}$  years whose father, a physician, feared tuberculous disease of the lungs. The boy may be said to inherit a predisposition to the disease and had a bad chest development, being narrow chested and stooped. A few weeks previous he had had a sore throat, fever and other symptoms, thought at the time to be gripe. After confinement to the house for a short time,

he had again gone to school, been taken with an aggravated recurrence of symptoms and for a second time been kept at home.

At the date of my examination he was still showing a slight temperature from 99 and a fraction to 100 and a few tenths. He had a slight cough and showed impaired resonance with roughened breath sounds in the left intraclavicular and right supraclavicular regions but not in the bronchial gland area or at the inferior parts of the lung. The submaxillary lymph glands were distinctly indurated, while the cervical and other superficial glands were not palpable. This circumstance taken in connection with the absence of dulness in the bronchial gland area and the history of a recent throat infection lead me to pronounce the slight lung findings not due to tuberculosis but to the bronchitis which had attended the attack of gripe.

A week later I again examined this boy and ascertained that the dulness previously discovered had nearly disappeared, while the temperature did not run above 99 in the afternoon and the throat symptoms had grown manifestly less pronounced. In this improvement therefore was found a corroboration of my opinion that the lad was not suffering from tuberculosis.

Case IV. In January, 1903, a boy of seven years was brought to me from Ohio for diagnosis and advice because of the opinion expressed by a physician in Cleveland that the child was suffering from tuberculosis of the bronchial glands. The boy was well nourished and did not look ill. He had been carefully reared, spending much time in the open air, but had had a good deal of illness in the previous three years. In the summer of 1900 he had had an attack of abdominal pain followed by a high fever which lasted for a few days and was not understood. The next summer he experienced a similar attack which from the character of fever was pronounced malarial and was treated with quinine. In September, 1902, the boy had a third attack of fever which was ushered in by an obstinate diarrhoea, that did not yield to treatment for three weeks. The fever persisted for two weeks longer and was characterized by sud-



den and marked exacerbations and remissions.

The boy was then taken to Cleveland where examination of the blood for the plasmodium proved negative, but a slight nephritis was discovered. On this account he was sent back home and put on a diet chiefly of milk. In December he was again taken to Cleveland and kept under observation in a hospital. His temperature chart at this time showed a low grade fever which varied from 99 or occasionally 98.4 in the morning to 100.4 and on a few occasions 101 in the late afternoon or evening. Two injections of tuberculin were then administered of which the first was thought to give a slight reaction, whereas the second, of double the dose of the first, failed to show any reaction. Nevertheless the physician expressed the opinion that the child had bronchial gland tuberculosis and should have a change of climate.

My examination disclosed a slight temperature by rectum of 100.2, a leucocytosis of 8700 and 9000, perfectly normal lung findings, no dulness in the bronchial gland area, no induration of superficial glands, no abnormal changes of urine and no fermentation of the faeces, but in the right iliac fossa a small body was found which was unmistakably sensitive to palpation, while the abdominal parietes above it, were slightly rigid. This finding was corroborated by Dr. Bayard Holmes who was asked to see the case. It should also be added that this surgeon examined the accessory nasal sinuses and found these perfectly clear to electric light.

Based on the following consideration the diagnosis was made of chronic appendicial inflammation and infection and not tuberculosis of the bronchial glands. These considerations as already mentioned were: (1) the history of attacks of fever and abdominal pain suggestive of some acute abdominal disorder; (2) the persistence of some infection as evinced by slight temperature and slight but distinct leucocytosis; (3) no changes in the lungs; (4) no dulness over the location of the bronchial glands, i. e. in the interscapular regions between the second and fifth dorsal spines; (5) a state of good nutrition.

The history was of utmost importance and significance, but I was especially struck by the boy's appearance which was that of health and by the slight increase of leucocytes, since in tuberculosis such an increase does not take place. He was plump and of fairly good color and not at all emaciated as one would expect in a child suffering from glandular tuberculosis.

It may be stated that my diagnosis was amply confirmed by the subsequent history. Dr. Holmes ultimately operated and removed a large, long, chronically inflamed appendix, while in the late autumn of the same year the father wrote me that he believed the diagnosis and operation were both fully justified by the subsequent state of the child's health.

## THE MENTAL DISORDERS OF NEURASTHENIA.\*

BY FRANK PARSONS NORBURY, M. D., JACKSONVILLE.

The clinical study of neurasthenia must include in its scope the morbid psychology of the disease, for without it we fail to apply "the reign of law" in mind, in disease, and in consequence the analytical inquiry into the very fundamentals—the essentials—of mind showing the different strains of conduct, thought and feeling, are overlooked.

Pathology of will is a prime essential in the study of neurasthenia. The allied emotions; the sphere of the imagination; the sympathies of mind and body, all of the disturbed mechanisms of the mind, in fact, must be understood before we can grasp the full importance of the problem before us.

There is a physical basis to all mental life and neurasthenia, while not always within the borders of a true psychosis, nevertheless, is properly studied as a mental disorder and has a true physical basis in the physical disorder upon which it is founded. Unfortunately, the true merits of the psychological factors entering into the clinical study of neurasthenia, are not fully appreciated by

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physicians in general, as a result the differentiations in diagnosis are not made; in fact, too frequently, the disease is, more often, not recognized at all.

In dealing with mental phenomena, physicians, as a rule, seek for something tangible; some one symptom to which they can tie. When they attempt to deal with the varied mental symptoms of neurasthenia, it is, to them, more or less, an excursion akin to a flight into the realms of transcendentalism, instead of the study of an abstract clinical proposition. We must not forget that there is more in psychology than the mere academic discussion of the emotions, volition, etc. Further, if we wish to know the mind in disease we must know of its organic roots, study them, just as we study their natural phenomena. The neuron theory, with its range of possibilities, is being applied to the study of morbid psychology, but until we can apply it to the complete study of the human nervous system and understand the arrangement of the neurones underlying the various functional nervous processes, our knowledge must be limited. Barker says, "we have gained, it is true, important clues concerning the individuality of mechanisms, the successive complications of nervous phenomena." The future of this inquiry is very promising. The advent too of improved psycho-physical methods of study, requiring patient scientific work, brings us more in touch with the mind in its relationship to the brain, (the organ of the mind) and offers for the future of experimental psychology a definite place in the field of scientific inquiry.

The trend of modern neurological thought is, as Dana expresses it, in a paper read before the Boston Neurological Society, toward "The Passing of Neurasthenia," and assigning at least 50 per cent of cases now designated neurasthenia, to the group of the psychoses calling the cases—Neuro-psychoses or Psycho-neuroses. This, I believe, is a decided step in advance in clinical neurology and psychiatry; it is the outgrowth of the refinement in diagnosis and classification inaugurated by Kraepelin. It is based upon a more painstaking analysis of facts rather than fancies in the study of disease.

In neurasthenia, in its clinical study, we enter upon the consideration of the morbid states of the mind as revealed in introspection, morbid fears, imperative conceptions, emotional disturbances, loss of will power, etc.; these are facts, demonstrable, and when analyzed, show how deeply implicated is their origin, nature and expression in the violent reactions upon mind and body. They are as natural in sequence as is chemical union and if so understood will enable the clinician to differentiate in diagnosis and to classify properly the mental phenomena under consideration. Dana, doubtless, had in mind the study of these fundamentals when he dwelt upon the particular importance of studying mental symptoms, in neurasthenics, in order to detect the relationship of their condition to one or the other group of major psychoses.

The psychological analysis of neurasthenia does not seek to explain it; it simply correlates conditions in a practical way and demonstrates beyond a doubt that the laws of psychology are definite and are not changed by disease. This explains why neurasthenia is, as Allbutt says, "a uniform and consistent malady," even though it be as he further says, "a wide generalization drawn from a world of particulars,"—particulars which are apt to gather in sub-groups, forming fairly consistent and uniform maladies, subordinate to the main disease, and the nature of these several constellations of symptoms was revealed only by a subtle analysis and a training in exact clinical observation which were scarcely at the disposal of the forefathers of physic."

When we proceed to analyze a case of neurasthenia, along psychological lines, we find an opportunity to study the psycho-physical characteristics of the disease; to learn too of cortical localization, viz.: the representatives of the special sense centers in the cortex; the centers of ideation; of positive knowledge, the essential physical basic centers of the best part of the mind; a knowledge of memory localization and the personality of the individual. Again, we undertake to study the great sub-conscious self where the great majority



of our mental actions never enter consciousness at all.

This is an attractive and practical field for it explains plausibly too, the mental disorders of neurasthenia. It gives a working basis upon which we can found our therapeutics and also offers the opportunity for more thorough study of psycho-pathology. The application of the neuron-theory to morbid mental phenomena, and especially its extension to the study of sub-consciousness, gives us a working hypothesis for the understanding of the special mental phenomena of neurasthenia. It also shows how closely allied, indeed, is neurasthenia with the more profound state of mental alienation, insanity. The underlying psycho-pathological process is the same and varies only in degree. Upon this hypothesis too, we can reiterate and emphasize what Dana has said that fully one-half of all cases now classed as neurasthenia are mild psychoses which he classes as psycho-neuroses.

Now, let us consider briefly some of the characteristic mental disorders of neurasthenia. First—

*Introspection.* When a person first becomes conscious of self, it is the beginning of cerebral dissociation—ideas or impressions thus centered “become parasites on the patient’s consciousness,” and ere long, become abnormally predominant and lead to advancement along the line of dissociation. Introspective ideas, in their growth, may be likened to a snow ball—they grow with each revolution—one thought begets another until the field of consciousness is more or less wholly self. This condition is due to disturbance of equilibrium, caused either by functional or organic changes in the nerve elements. The nervous system is but a series of functionally independent elements—the neurons in health are in mutual equilibrium but a group of these elements may be distributed, pathologically, so as either increase or diminish functional activity and as a result we have heightened or lessened resistance to stimuli.

In introspection of neurasthenia we have functional lowering of the excitability of the neuron and of these agencies which depress

activity, exhaustion or over-fatigue, (with attending malnutrition) is the chief. In neurasthenia the nervous system suffers unequally from the exhaustion. The higher psychical centers which are concerned in the mechanism of conscious attention, are among the first implicated and of the first of these evidences we have introspection, later the sensory and motor centers become involved; the order of their implication is about as follows: first, a depressed self—marked by introspection, then asthenia (depressed intellectual activity) emotional disturbance intensified by the morbid introspection with possible resulting melancholy state, because the lowered activity of the neurons and their diminished reaction makes possible the continuance of painful emotions (pain is concomitant or lowered physiological activity).

Macpherson has given us a classic description of the pathological symptomatology of neurasthenia, basing it upon the neuron concept, showing how it may merge into insanity; Bancroft says his explanations are certainly plausible. It strikes me they are reasonably probable, and give to us the most rational explanation of the finer mechanisms of cerebral functions. From this hypothesis the slow reaction to mental stimuli, the introspection, the emotional state, the confusions of thought and action and the will loss of neurasthenia are all explainable. It is by no means necessary to suppose that all neurons of all centers are equally affected nor that all ideation centers are involved. We have but to note the mental symptoms in each individual case, in order to show the variation of functional activity. However, in melancholia all of the ideational centers are involved while in neurasthenia the shades and variations are a feature of the disease.

Macpherson, speaking along this line says, “Neurasthenia affords one of the most instructive types of an affection characterized by lowered resistance of the neurons and a tendency to dissociated over-functioning of limited neuron groups. The hyperaesthesias force themselves upon consciousness, and the reacting effect of fixing attention upon hyperaesthetic areas is an increase in their sensitiveness.” “In addition, the effect of con-

centrated attention is to form ideation trains of a like emotional tone, which weaken the mental constitution, if persistent, by dissociating important portions of it for the consideration of useless subjective phenomena. In this way a vicious circle of introspection is formed which, unless interfered with or inhibited by more powerful mental processes may become chronic.

*Obsessions.* The most striking group of mental symptoms in neurasthenia are the obsessions (the impulses) (imperative conceptions) which have their origin in the subconscious self and suddenly spring into the field of consciousness and may become, indeed, an irresistible impulse. The thought, at first, may be downed but soon it arises again, and with each return is more fixed and insistent until ultimately, it is imperative and uncontrollable. It may be a simple thought like counting; I have seen profound cases of neurasthenia, which when inaugurated, had the simple obsession of counting. One would count up to nine, she would count the steps she would take as far as nine, then repeat, etc., etc.; another began by counting in multiples of seven, etc., etc. Other simple impulses like touching objects, repeating a simple sentence, as an example, one of my cases kept repeating, "Royal Baking Powder, Absolutely Pure," a stock phrase seen so frequently in advertisement of the daily press. Other obsessions, simple at first, or complex, as in the negativism described by Weir Mitchell, all belong to the same dissociated group of ideas which characterize obsessions. This dissociation does not necessarily disturb the individuality of the patient, except in the more complex cases. Beginning mildly and capable of being reasoned about, the impulse finally reaches a point where will is overcome; this marks the beginning of will disintegration, a weakening will, the equilibrium is disturbed, and a divided will results, producing the indecision so marked in neurasthenia. I have now a patient who has reached this stage of indecision where it is difficult for him to decide whether to obey the impulse or not. The rebellious desire to overcome the obsession is pitiful to note and rather amusing too in the patient's perplex-

ity. The self assertive state which says, "I will not," changes under the enervation of the obsession to a gentle acquiescence to it. The disturbance in the higher association centers is in evidence, inhibitory control is impaired and the more the patient wills, "I will not," the more he responds to the obsession.

The pathological explanation of obsessions, as given by Macpherson is, I believe, the correct one. He says, "How can a train of ideas become dissociated?" Only so far as we can understand it, by a group of neurons in the ideational centers becoming hyperaesthetic, or hypoaesthetic, or in other words, by their becoming abnormally resistive or abnormally excitable. The result is dissociated action of the neurons. "Certain neuron groups for some reason become highly resistive, then discharge of currents modified by these particular groups seeks an outlet through other, though limited channels. For this reason, the discharge is all the more intense, and the oftener it is repeated through the new routes, the more easy and persistent does its manifestations become." The variation of violence of the discharge determines too the variation of intensity of projection into the field of consciousness. The obsession thus engendered is as Sidis calls it, "an emotional automatism." The will power with its normal inhibition is slowly undermined due to the normal association action of neuron groups being dissociated. Emotions too loose their normal inhibition for the same reason and when they act in unison with the obsession, intensify and make imperative and persistent the morbid conception." The startling abruptness, the utter irrelevancy, the entire absence of any rational cause for the existence of these insistent ideas are clinical evidence of their mechanical origin in neuron dissociation." (Bancroft).

Macpherson says that clinical observation bears out such an explanation because, (1) Obsessions are most common in neurasthenics, hysterics, and in all degenerates among whom, as a class, other forms of cerebral dissociation, dis-equilibrium, and weakness of nerve elements are generally found. (2) Obsessions may be independent of proceeding emotions or any other determining cause.



(3) Obsessions abruptly enter consciousness, often with startling suddenness disturbing ordinary thought, and remain there altogether outside of the influence of the conscious mind. (The sub-conscious explanation of Sidis). (4) They are recognized by the subject as foreign to his personality and his modes of thought, and are not, at any rate, in most cases, blended with his individuality. (5) Their haphazard origin is apparent from the fact of their immense variety, their being as many forms of obsessions as there are of thought.

*Morbid Fears.* Morbid fears are striking disturbances of neurasthenia and are but the continued evidence of nervous exhaustion. Of this Dercum says, "That fear and weakness should go together is natural." Everywhere in nature they are associated. "That a person whose nervous system is exhausted should also be morbidly afraid, is therefore not surprising." These fears vary with the same degree and insistence as do obsessions. Pathologically speaking they are practically the same as the phobias or fears are but another phase of obsessions, another picture upon the back-ground. Fears project themselves into the field of consciousness in varying conditions. In mild cases we note simply an undue anxiety concerning their individual health, which may soon be dissipated or if accompanied with visceral disturbance may grow to become a constant and persistent fear, only to be relieved after weeks or months of patient treatment. A physician in investigating morbid fears will find that he frequently will have difficulty in eliciting them. For, in the beginning, patients will reason with themselves, the absurdity of the fear and may control it until something occurs to strikingly bring it in evidence and then not only the subjective but the objective presence of fear is marked. Patients frequently date the beginning of illness to some profound emotional shock, or accident, and from that time, the fear has been a persistent feature. Again, some profound visceral disturbance has caused fears to come on suddenly, to become persistent and not disappear even after all visceral disturbances have been relieved.

How frequent indeed is the fear of heart disease met with in the routine of practice and how difficult it is to dispel such a fear, even where we are able to prove to the patient that it was but an evidence of disturbed digestion. Fears associated with visceral disturbances are hard to relieve and fears accompanying vertigo are seemingly everlasting in neurasthenics. The group of morbid fears which are classed as phobias are truly representative, pathognomonic mental disorders of neurasthenia. They may occur independent of visceral symptoms during their course and persistence, they are founded usually upon insistent ideas. They are morbid conceptions which may spring suddenly into the field of consciousness and thereafter be persistent. I have noted a number of such cases where these fears have come on suddenly—the patients giving the date this morbid fear developed, as one patient expressed it, "it came from the dark unknown one day and has remained ever since." These morbid fears have to do with the fear of space—thus the patient just mentioned, a prominent lawyer was walking to his place of business, he came to a street crossing, when the fear of crossing this space overtook him, he experienced all of the physical conditions of fear—cold sweat, rapid pulse, hurried respiration and exhaustion. He could not cross the street, called a delivery wagon going by, sought assistance from people on the street and was taken home and thus began a fear which lasted until he was relieved of the neurasthenia.

I find such fears occur more frequently among the intellectual classes, school teachers, lawyers, physicians, business men and brain workers in general. The morbid fear of crowds is another phobia similar in its characteristics and genuine in its intensity. Bouvert says, "we have a fitting analogue of this fear in the experience of healthy persons when standing in great heights. I regard these fears as truly mental disorders of neurasthenia—diagnostic in fact and rarely evidenced in insanity where morbid fears usually take on other forms. Morbid fears in insanity are episodic syndromes in degeneracy according to Magnan.

What we term shock is undoubtedly a defensive reaction of the autonomic nervous system against assault that has been committed. If it was not for the protective influence of shock we would succumb more quickly and the reaction would be more intense than now occurs. It may fail at times, or even be too intense for the safety of the individual, but the fact remains that, as Crile has pointed out, the shock mechanism is one forged many generations ago in the history of the race, when some apparatus was necessary to secure instant preparation for flight or withdrawal on occasion of danger.

The most intense form of shock is commonly regarded as those cases of sudden death where there is no precedent disease—death by inhibition—death brought about by events that produce no obvious lesion, death following immersion in water before the patient has time to drown, death following a simple operation where the pulse and temperature remain normal until death occurs from respiratory failure. When, on the other hand, shock falls short of immediate death, there may be profound shock for 24 to 48 hours, which terminates in death or gradual recovery. This is the common kind of shock, from which people suffer after serious injury or operation.

Shock also has relation to things just prior to operation. Disturbances of the mind just previous to operation are due to fear and anxiety. This is psychic shock. There are many other factors that indirectly produce shock. If the disease for which surgical intervention promises relief is one which affects the nervous system in a depressing way, any delay in operation will bring the patient to the operating room in a condition of shock. In these cases, as in those where the operation is unexpected, the dangers of the unavoidable psychic, anesthetic and operative shock are naturally greater. This is unusually evident in cases of intestinal obstruction and exophthalmic goiter, therefore, the earlier the diagnosis by the physician, the greater the success of the operation, both as to the local disease which demands a cure and the general nervous system which has to stand the trauma of the operative cure. There is a class of cases which, after the infliction of trauma, the subject displays emotional perturbation, rallies, seems to be doing well, and yet ultimately develops symptoms which may be unusually severe or terminate in death.

The cases which recover sometimes pass as traumatic neursthenia, in which a definite latent period elapses between the symptoms immediately displayed and those that develop later. The cases in which, after a varying period, grave or even fatal consequences may ensue, are those which are referred to as delayed shock.

Common to traumatic neursthenia and delayed shock are unexpectedness of the injury, and high psychological, rather than physical, value of the causative incident. The prolonged anxiety and stress of shipwreck is not so effective in producing traumatic neursthenia or delayed shock as is a railway collision. When we are suddenly frightened, if taken off our guard, we turn pale. The blood is diverted from the skin, where it is not



needed, to the heart and lungs, so that these organs are well supplied for the immediate flight prompted by our ancestral origins. Cannon has demonstrated that when animals have been subjected to injury, or deliberately frightened to death, the adrenal system (a part of the mechanism that controls the blood distribution), may be so completely exhausted by its efforts that it becomes powerless and death ensues.

It is my purpose to show that there is a definite connection between death from inhibition, surgical shock, delayed shock, traumatic neurasthenic, post-operative ileus, death following trivial injuries, and apathetic death "without apparent reason."

We see the physiological explanation of delayed shock in human beings. Cases of delayed shock are not uncommon, but they are often masked—when an aged person dies a week or two after a fracture of the thigh or other trivial injury. There is usually immediate manifestation of some psychical agitation; but this may pass off. There is a varying period in which the patient may seem to be suffering hardly at all, but there are indications of interference with visceral functions. The blood pressure is affected, and the heart tends to dilate as it loses tone. The urine is scanty. There is constipation, flatulence and shortness of breath. As it may be the respiratory, cardiac, gastric or intestinal symptoms that attract the physician's attention, so if death occurs, it is ascribed to congestion of the lungs, heart failure, pressure of the stomach on the heart, intestinal toxemia or even suppression of urine.

Crile states that the dangers from high blood pressure are embolism, thrombosis, angina pectoris and broncho-pneumonia. Low blood pressure may be either physical or psychic and is usually associated with shock, anemia or hemorrhage, which should be controlled before operation.

When hysteria continues after trauma, the patient will probably recover with little psychical damage. When the early psychical disturbances have play, but are controlled, traumatic neurasthenia, or the more marked type of delayed shock may ensue. Sometimes there is no initial hysteria; the subject displayed a peculiar apathy, and death is quite sure to follow. In such cases the autonomic nervous system is thoroughly disorganized, probably by inhibition from above. A woman who does not cry in the presence of a great sorrow is as likely to die as the Bengalese who can not sweat on a summer day.

In traumatic neurasthenia the protective mechanism of the body is taken by surprise. There is no preparatory adjustment of the blood distribution in the body. It is easy to understand how, given a high shock value, under such circumstances the protective adaptation may be out of all proportion to the occasion, as when an ocean liner strikes an iceberg or a telephone operator is excited by a rumor of fire.

Henderson of Yale has shown that there is a definite relation between shock, vaso-constriction and that condition of acapnia in which there is such a diminution of carbonic acid gas in the tissues and blood that the respiration is slowed until the carbonic acid gas accumulates up to stimu-

The rest cure is a name to cover what ought to be a combination of incipient rest followed by a systematic work cure. The isolation, of itself, is of absolutely no avail except as a means to control the patient, to influence him and to make him realize his exact condition and to enlist his assistance to establish in him a healthy frame of mind. Isolation of itself alone is a perfectly useless procedure, and yet, I am sorry to say, it is often resorted to as such.

Let me illustrate this in another way.

I once asked a former assistant and very ardent supporter of Dr. S. Weir Mitchell in his rest cure ideas, what he thought his results would be and what the results of Dr. Mitchell would have been had it been possible to carry out the massage, the electricity and the forced feeding by means of machinery, without having the personal element of the physician in the case. He laughed. Of course, the result would be nil practically. In my opinion, the reason that Dr. Weir Mitchell had such a tremendous success in the treatment of these cases was because of what we may call his personal magnetism, his management of the individual as a whole, and not so much of the disease by the feeding, massage and electricity.

Just one more point. Those phobias, to which Dr. Norbury called attention, are real emotional states, but not primarily so. In nearly every case, careful examination, thorough quizzing of the person, of the circumstances of the initial affair, the very beginning of it, will reveal the intellectual basis, a definite fear of some particular calamity, which the patient concluded, not emotionally, but logically, might affect him. He is very apt to forget what that was of which he was afraid at one time; all he knows is that he is afraid; that he trembles; that his legs give way under him, and he has all the signs of tremendous overwhelming terror, but he does not know why, but the physician can find out the reason.

Dr. Harold N. Moyer, Chicago: In listening to this discussion, I fancy that it may seem abstruse; but it is not. It is very simple, and I want to impress upon those of you who are not neurologists, and I trust that there are not many who are, the importance of this subject. It is one of the vital things to everyone engaged in the practice of medicine,—this understanding of neurasthenia. Of course, the types, the severity of the disease, varies from the slightest departure from a mental and physical normal state, to the greatest departure. The lighter forms of neurasthenia are present in many cases of acute disease particularly in convalescence.

Many physicians listen to tales such as Dr. Norbury relates of the mental picture of neurasthenia, and what have they said to these poor unfortunates? "You are morbid, fanciful and nervous but there is **nothing the matter with you.**" If you have said that, you have made it difficult to help that person. That is an unfortunate departure at the outset, because, in the majority of cases, the recovery of the neurasthenic is prompt. He has a natural tendency

to get well. But, if you tell him that there is nothing at all the matter with him, you place a bar against your helping him to get over his morbidity and nervousness, a bar over which he must climb before he can get well.

Tell him that his fears are a part of his disease; that one thing simply has followed the other. Let him think that they are real and then treat him and he will be glad to help because he wants to get well.

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## MEDICAL ETHICS AND ITS RELATION TO THE CITY HEALTH OFFICER.\*

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BY F. E. WALLACE, M. D., MONMOUTH.

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To me it seems strange that such a subject as professional etiquette should need to be brought before a society of physicians for discussion. I say strange because, a physician should have had instilled, during his college course, a thorough knowledge of what constituted etiquette, and above all else, should have that higher and nobler qualification, that something which is called manhood. He should have had moulded into his character, charity, benevolence, and confidence and should always hold before his minds eye, that good old golden rule: "Do unto others as you would that others should do unto you."

In many communities there is a frequent clash between health authorities and physicians upon matters of quarantine and disinfection. In some instances the fault may lie with the health officer, who may be inclined either himself or through his assistants to assume a somewhat arrogant attitude, and we may say that the health officer needs to be firm and aggressive in dealing with ignorant and fanatic constituents, which attitude he is not always able to lay aside when in contact with the physician.

The physician, on the other hand, is inclined to forget that the health officer is really his greatest ally in eradicating con-

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tagious diseases. The family physician holds a responsible position and often the key to the situation. He must advise his patients, allay their fears, soothe their feelings and, above all, make sure that the infected premises and persons wherein he is the medical advisor are freed from contagion. Any physician who is sufficiently familiar with modern surgical practices to properly carry out an operation, is certainly skilled enough to apply these methods to the elimination of infection. The principles involved are simple and plain, but need to be carried out to the smallest detail. Sometimes physicians who have not given the subject sufficient thought, allow their patient to do the disinfecting. This often means that a small sulphur or formaldehyde candle is burned, or some sort of odor is produced and the premises are certified as disinfected. Health officers cannot be censured for refusing to release quarantine under such procedures.

In performing the duties of health officer, one comes in contact with every physician of his city and should be on friendly terms with all, because if health officer and physician should openly disagree, then the laity is judge and a critical judge it is. It necessarily follows that our profession is not benefitted by such strife and it throws discredit on the greatest and most important part of our work, prophylaxis. Prophylaxis should be the initiative of all therapeutics, prevention is paramount to cure.

If the public could only understand the necessity and value of preventing disease, how many, many lives could be saved, which are now sacrificed to ignorance, stupidity and cussedness.

If your opinion should differ from that of the health department, do not make trouble and hard feeling by criticism and opposing acts. Criticisms by the public fall thick and fast, on a health officer, and physicians can do a great deal to prevent it and could, if they would, educate the people along the lines of prophylactic medicine, so that in a few years, the statistics of death from contagious diseases, could be cut in two, as well as the number of cases.

When asked what you think about an ac-

tion taken by the Health Board, have you given adverse opinion? Some of you have. When asked by the Health Board to observe certain rules which were deemed wise, why is it you have not done so? Did you ever remark that in your opinion, "No cases of smallpox have existed in our city or state" or have you said, "if the Health Officer saw this he would call it smallpox." Then again, have you ever said "Don't let the Health Officer know about this or he will quarantine you," such remarks have been made many times by physicians. Why is it? Is it mere forgetfulness? Is it jealousy? Is it for the purpose of a better standing with the public? Is it the dollar you are after? Alas, alas, human nature is beyond my comprehension. Now in all honesty, do you think this professional etiquette, and do you think the golden rule applies? There are a few, however, who forget this Golden rule and substitute the one, "Do others and do it so hard they can't do you." Or perchance the one, "Do unto others as others do unto you." Instead of offering criticism and doing acts which might cause trouble, do you not think it much better to say, "It is all right" and thus treat the Health Officer with respect and professional courtesy. If you do not owe it to him, you certainly owe it to yourself and your profession. In some cases if doubt exists as to diagnosis, it may be a conscientious doubt, but we must take the highest authorities for our opinions.

Boards of Health receive their power from the State Statutes. It is called "police power" and the highest of all. Therefore they can make and carry out any rule or regulation which they may deem wise to adopt, under certain conditions. You will see that their power is great and can cause trouble for those who carelessly or willfully disregard their rules. Remember that the Health Officer has put up a bond to do his duty and must faithfully carry out the laws or else he is liable. The position of health officer is not an easy place by any means. He earns more than he receives. Let us therefore, labor in behalf of the rules and regulations of our health department and thus promote the cause of preventive medi-

cine and benefits to humanity and also promote a friendly feeling between the Health Officer and ourselves. Let us help him to hold up his hands.

How happy the physician who can dwell in unison with his fellow colleague, how sweet the remembrance of those who have gone to their everlasting rest, of whom it can be said, "He had no word of criticism or bitterness against his fellow physicians." From my own personal knowledge, such a man I believe, was the late Dr. Marshall of Monmouth. He had that nobleness of character which prevented him from uttering words that condemned. I believe he lived within the radiancy, which emanated from the golden rule and which cast a harmonizing influence throughout his whole life. You all know of just such noble men in your community. Manhood should dominate every act of the physician and etiquette should be a dictator.

In conclusion let me add a few "Don'ts:"

Don't be a knocker! If there is any chance to say a good word for the Medical Profession, say it. Don't pull a long face and look as though you had a sour stomach. Hold up your head, smile and look for better things. Hide your little hammer and try to speak well of your colleagues no matter how small you may really know yourself to be. When a Doctor drops in, jolly him. Tell him we have the finest set of doctors on earth, and we have. Don't discourage him by speaking ill of your fellow physicians. Lead him to believe that each doctor is a friend and that we live as white people live. Don't knock. Help yourself along by observing the Golden Rule and push your friends with you. It's dead easy. Be a good fellow and soon you'll have a procession of followers. No man ever helped himself by knocking other people, in character and business. No man ever succeeded by trying to make others believe he was the only doctor in town, or the only man who knew anything. You can't climb the ladder of success by treading on others' corns. Keep off the corns and don't knock. You're not the only! there are others; and they have brains and know something as well as you.

There's no end of fun minding your own business. The other physicians will like you better. Nobody gets stuck on a knocker. Don't be one.

Don't forget that the public are ignorant and need enlightenment.

Don't forget that others will criticise—We should praise.

Don't express an opinion if it cannot be a good one.

Don't forget that prevention is paramount to cure.

Don't forget the beam in your own eye, when talking.

Don't forget to look around for good example and follow it.

Don't forget that in praising others we help ourselves.

Don't forget that in performing acts of charity, benevolence and justice, we are character building.

Don't forget the "GOLDEN RULE."

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## THE EXERCISE OF PREVENTIVE MEDICINE A FACTOR IN THE SOCIAL EVOLUTION OF MAN.\*

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BY S. O. HENDRICK, M. D., HENRY.

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"In relation to cause and effect," if ill-health represented the former and medicine the latter, "if to remove the cause is to remove the effect," it would be the exercise of preventive medicine.

And as this seems to me to be the function of social evolution, I deem it proper to consider my subject upon its basis.

All organisms are naturally acted upon by their environments and life is an expression of their reaction. When reaction ceases, an organism is a passive prey to surrounding forces, life becomes extinct and death succeeds it. A living organism acquires its development by reacting against its environments. Therefore the incessant struggle unchangeably confined to life is, of course, not without its advantage.

So long as the living organism is able to maintain the equilibrium of its function, it is in a healthy condition. And as man's or-

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ganism is more capable of reacting against his environments the basis of his health equilibrium is relatively a broad one, differing from other creatures. It is so because it is so destined that man's organism should be of a higher order of development. He must not only withstand the forces of gravity and raise himself from the earth; maintain an equal temperature notwithstanding the surrounding changes from heat to cold; hold the moisture of his tissue against the drying influences of the encompassing air; but he must combat the whole category of his, by possession, social system as well.

As a result, a symptom, an irritation and pain demanding help appears, a penalty for the broken law of his nature, a social force eager for relief so great, that it can well be called a law propelling him on in the course of its evolution.

Naturally through medicine relief has been sought, thus simply adding "fuel to the flames" by treating the symptom instead of removing the cause.

This discovery, however, has led to the consideration of the prevention of medicine. And in the attempt to exercise it, the feature of not only society's ignorance in regard to it, but selfishness appears.

Selfishness is the fountain-head of all the principal environments that are the basis of physiologic equilibrium, degeneracy. For to luxuriate in the loves of his affections in self aggrandizement, has ever been the goal of man. The nature of which is sensualism in the prides of his intellect and ostentatious display, culture, pleasureable emotions, eating and drinking, and venery. An inevitable sequence of antecedent conditions, the more notable of which, comprehensively grouped, called civilization; whose most conspicuous feature is a marked departure from primary typical human conditions, manifested by an increase of intellectual capabilities and corresponding differences in modes of thinking and habits of living, characteristic of civilized man.

That such is a departure from a common center that can not be continuous in a straight line is as obvious as the fact that motions of matter are so ordered in the econ-

omy of nature that whether of molecules or masses, they are rotary, orbital, vorticular or spiral, but never linear, always tending towards but never finding—rest.

By such motions are effected the balances essential to the stability and integrity of all forms of matter, of the Universe Itself!

That such deviations from common or typical human developments cannot be continuous in the same direction without culmination and return towards more common conditions, may be known from the fact that all ancient civilization did so culminate and return through an arc of degeneracy to more primitive conditions.

It is a manifestation of an "Inevitable Sequence," a reversal of physiological processes at a certain culminating stage of development and subsequent conditions in an opposite direction until balance is restored. The general principle, in accordance with which physiological movements tending to degeneracy are primarily instituted, may be designated as the law of physiologic equilibrium, a factor for the exercise of preventive medicine in the "Survival of the fit."

It is a fact with gravitation, evolution, and self preservation, the first law of nature, the necessities of the universe.

Too much polite literature and the elegant arts necessarily tend to create frivolous and effeminate habits of thought and feeling separating the sentiment from the deed, whereas the end of feeling is to impel action. To luxuriate therefore in fine sentiment, noble thoughts and the elegances of style, and rest in this indulgence does of itself tend to immorality and decay. The springs of action are thereby perverted from their proper use, and character is developed like that of the novel reader who weeps over the misfortunes of imaginary heroes and spurns the wretched from his door.

The lovers of culture recognize its evils and dangers and hence they clamorously practice the necessity of action, but in vain as their own examples show. They give fine theories without the hope of realizing them, which is not surprising, for their habit of considering things from every point of view, and weighing all that can be said for and



against every opinion, begets a sophistical and hesitating disposition, which of course renders action distasteful and also warps the practical judgment and unfits it for deciding upon any right course of conduct. It makes a dreamer; and the work of the world is not done by dreamers because they are not men of action. In the nature of things is founded the historical relationship between culture and licentiousness. History seems to bear out the statement that ages of luxury and refinement have been invariably noted for licentiousness.

Culture's aim is to educate man so as to fit him for the enjoyment of the greatest possible pleasure. It shrinks from vice not because it is evil, but because it is gross and disgusting.

In the modern sense of the word it is derived from Athens, the city of the mind, the university of the world. And Athens fell, the consequence of degeneracy.

Nutrition becomes impaired by congestion from over-accumulation of waste unassimilable foods, leading to starvation which contributes to many inimicable factors under the head of degeneracy.

Commencing at infancy, mankind is surfeited at the breast and infant feeding, the central thought of the parent being the danger of starvation and the need of constant ingestion of food. If indigestion follows, another nurse is procured and changed food according to their notion, in equal quantities will be given. Later, when the child is able to occupy a place at the table, all discrimination is left to his own tastes, the parents reasoning that the appetite is the best guide and the child's food inclination should be followed. Anything the child wants as foods or fluids are given it freely. The disturbances of digestion that follow are usually treated as weaknesses and tending to diseases, together with disturbances of the digestive organs. Consumption, rheumatism, diseases of the liver, stomach and kidneys are discernible, climate cures, changes of school and culture and many remedies are tried. Puberty is finally passed, and the digestion is permanently impaired. The body is ill-nourished. Fatty deposits have begun. Food and liquid

demands are mere impulses. Taste is disordered. Large quantities of certain classes of foods are taken, and then abandoned. The same is true of teas, coffees, mineral waters, beers and wines. Indigestion, obscure or well defined nerve failure, nerve disturbances, irregularity of sleep all follow. The subtle tonic bitters containing from 20 to 40% of alcohol finally comes, or the wines or whiskeys and inebriety has come. The relief from the use of spirits is so great that it is continued; then following is a rapid, sharp degeneracy and the inebriety is chronic. Complex mental and physical changes appear; followed by opium and other narcotics, changing from one to another.

Those under-fed are persons who have been practically starved in many ways. It may come through exclusive diets used from necessity or from carelessness and neglect.

In very poor families the food from infancy may be almost entirely potatoes, corn-meal or pork; or fruits in more tropical climates, in some form of liquid foods, no variety and often one article almost exclusively. In other families, from theory children would be forced to use one class of food and not others. Carelessness is the most prevalent in a large proportion of cases. After the nursing period children are supposed to eat the same foods as the remainder of the family, and without discrimination are given anything that is prepared. No care is taken nor judgment exercised in regard to the diet as to quality, variety or nature. Such a diet being insufficient causes states of starvation and defective growths leading to narcotics. The influence of occupation upon decay productions is due chiefly to unhygienic environments. Although some occupations are injurious from over use of certain functions, and others, from mental stress or emotional excitement involved, and still others from undue long hours of work, injury more often arises through the inhalation of vitiated, irritating, toxic or even infectious atmospheres, from exposure to trauma, to extremes or variations of temperature, to alterations in the atmospheric pressure. From the like productions of decay primeval respiration is known to be subverted and

what was physiologic becomes pathologic, the expiratory function lessened. Says an eminent authority: "He has found circumscribed lung areas which yielded a dullness or even flatness on percussion, areas which he calls, *Atelectate Zones*." Besides there is a tendency to dissipation associated with many occupations. And the loss of the natural co-ordinate action of related groups of muscles, as occupation spasm or palsies, is most frequent in those exposed to severe mental strain or in those with neurotic tendencies. Occupations associated with great mental effort frequently lead to forms of hysteria, neurasthenia and paralytic dementia. To such affections, statesmen, artists, financiers, journalists, authors, lawyers, physicians, teachers and students are especially disposed. The comparatively isolated life of agriculturists, with its tending to brooding and introspection, seems to favor the development of melancholia and forms of insanity. Neurasthenia therefore is often the product of urban life, melancholia of rural life.

As a consequence of disease, premature death and degeneracy, irritation and pain demands for help manifested in depreciated nervous centers appear; and as a phenomenon that of an "Evil Spirit" within causing a demand to be healed, hence arose the "Healer of the Evil Spirit."

And have we not the same manifestation of ignorance and superstition as a psychic parity with the savage represented in the Dowie and Christian Science doctrine?

Then follows the medicine man, who studies herbs, the physiology and surgery of man in a blind way; in fact the science of medicine dawns upon him. Then he begins to discover the effect of his herbs as narcotics and stimulants. Thus flattered he thinks he has discovered a "cure all." Now commences his career of doing much harm. Finding that large doses were disagreeable and difficult to take, he conceives the idea of condensing. Hence alcohol was discovered. And in the light of scientific investigation he has handed down a host of drugs which he has found to be of the greatest value as stimulants and narcotics.

Therefore we find drugs representing these

properties in most general use. And the most recent investigations of their effects upon the system after having studied the laws of vital processes, show their danger without this accurate knowledge. Because pain, nervous irritability and weakness have been undoubtedly the leading symptoms demanding the greatest attention naturally soliciting sympathy, drugs meeting these demands have been the most sought.

Thus the physician has carried their use to an evil. Flattered by their soothing effects he has lulled his patients into the self satisfaction of a cure and thus holds them until nature effects the cure, or otherwise. Finally the druggist getting on to the demand, lays in a stock, an enormous amount familiar to us all, to say nothing of the nostrums for the alcohol contained in them. And when we take into consideration the enormous number of drug stores in our civilized lands, and I will include dram shops because of the alcohol unconsciously sought as a medicine, we can somewhat realize the nature of the drug habit. By way of illustration I cite you to China and India for the opium habit; Germany for beer; England and Scotland for whiskey and ale; France for wine; America for beer, wine and whiskey. Besides in these latter countries are used other narcotics, opium, cocaine, and others.

And as these contribute to degeneracy, when we consider the influence of heredity, its magnitude is apparent.

The copulative desires of man being perverted he is a victim of erotic fancies. It contributes to abnormal ovulation and thus over population and infectious diseases of the genitals of both sexes, and the pelvic organs of women, also to degeneracy. I have classed these agents as directly contributing to degeneracy, under the head of those comprised in the general factor for the exercise of preventive medicine in the "Survival of the fit" through the arc of degeneracy because it is admitted how futile it is to try and restrict the race to a limited and innocuous environment. For in the defiance of the Humanitarian the male fists will clash; the glutton, the inebriate, the profligate will persevere regard-



less of the reformer, and in the markets of trade where misdirected commercial zeal racks the nerves and often blasts the mind, the physicians' warnings will ever go unheard. So lightly is man's health regarded that while departments of war and state and of agriculture are considered necessary, the protection of the people from disease finds no place in the cabinet that conducts the affairs of men. Accordingly boards of health are limited exceedingly in the exercise of their duties. But in the nature of things the general principles, in accordance with which social movements tending to prevent physiologic movements that tend not only to degeneracy but disease and premature death, are also primarily instituted, may be designated as a factor for the exercise of preventive medicine not in the "survival of the fit" through the Arc of degeneracy. Those under its head are well set forth in the principles of preventive medicine by the most recent authors with only suggestions as to their exercise making them nil so far as usefulness.

And from the nature of the physiologic and subsequent social movements therein set forth necessary for their exercise, from the nature of the principles of preventive medicine it is easy to see the reason why; because they are matters of which society is not only ignorant but also of which they are immoral; therefore social movements tending to prevent physiologic movements that tend to degeneracy, disease and premature death, must arise in the main indirectly through social movements accounted for otherwise than intellectually or morally.

Morals, like the Jewish dispensation of Moses not to be eschewed as a discipline and pathologic prevention through virtue and the moral fear of unclean things to eat, etc., have played their part and handed down a race for morals, exemption from diseases—and especially degeneracy—not to be excelled.

Christianity, together with culture, to a certain extent, has handed down a soft sentiment begetting passive natures that disposes of freedom of speech and action. Hence there is developed more generous, chivalrous and charitable minded people tending,

through industry, to better opportunities by way of comforts of life, as for example: in the way of benevolent gifts to hospitals and scientific researches, desirable abodes, ease, recreations and amusements.

Long before the mosquito was known as an intermediate host for malaria and yellow fever, screened houses, clean premises and drainage of land were the custom; and since raids with brooms and kerosene have been the rage.

Acquired immunity by excess in the prevalence of infectious diseases and germ virulency regulated by germ environments is to be considered in the prevention of infectious diseases. Three thousand years ago the Chinese are said to have practiced the introduction of crusts from various patients into the nostrils of children that they might acquire the smallpox and thus possess future immunity against the dread disease. This led to the practice of inoculation that spread to Persia and finally to Turkey. Early in the eighteenth century Mary Wortley Montague, wife of the British Ambassador of Constantinople, wrote from Adrianople a letter containing this celebrated paragraph: "Every year thousands undergo this operation (inoculation with virulous matter) and the British Ambassador says pleasantly that they take the smallpox here by way of diversion, as they take the waters in other countries. There is no example of any having died of it and you may believe I am satisfied of the safety of their experiments, since I intend to try it on my dear little son."

This led to a rather extensive adoption in England, and finally in America, of the practice of direct inoculation of variolous material into well persons. Objections to the method were that it produced a disease from which one might contract virulent smallpox, while in a small proportion (about 0.3 per cent) of cases a fatal result followed. It was finally abolished by law in England in 1840. At present virulent virus is not employed in human practice. Jenner in 1796 deliberately injected a human being with the virus of cowpox as a preventive measure against variola. Vaccinating in this manner was introduced into the U. S. in 1800 by Water-



house, the "American Jenner." Later forms of attenuated virus were introduced by Pasteur. Sunlight is a good stimulant to change and transform the tissues of the surface of the body. It vitalizes them and the metabolism is better performed by its influence. It is also a preventive of disease. Houses should be built with all the windows possible, especially bay windows on the sunny side. For those who suffer from rheumatism, neurasthenia, neuralgia, anaemia, catarrh and tuberculosis, sclerosis or paralysis of the nerve centres, the lymphatic or strumous, arthritic or scorbutic diatheses, nothing can be compared with the sunbath in helpfulness. If the sun's rays should be very powerful in midsummer, they can be softened by interposition of stained glass or pale green or yellow shades; in the spring from April to June however, sunlight can be taken direct. The sunlight effect must be watched and exposure graduated to suit individual needs. Sun baths should never exceed an hour's duration. Should a patient be nervous after a bath shorten time of exposure; if that is not sufficient, soften the rays by interposing some medium of poor absorbing power.

The head should be well shielded with some patients especially if the sun has reached or is nearing its zenith, and a cool compress may be applied to the forehead and back of head. It is generally better to take a sunbath before the sun gets so high—say between 9 and 11—or even earlier in midsummer. The oblique rays give the best results. Severe headache is the result of a focusing power of sunlight on the brain unless due precaution is taken.

Does not society's movements coincide with this? Is it not true that houses of the most modern kind are well lighted with windows, especially bay windows, on the sunny side, and softened by the interposition of stained glasses and shades in pale green or yellow from custom and style?

Do not people in the north follow the sun's rays in the winter as tourists and in the summer seek country and sea-side resorts, as diversions? And in the meantime do they not unconsciously observe the conditions of the sun's rays? And does not the Roentgen's

and the Becquerel's rays, and the Finsen's light also meet these conditions of the sun's rays as industries?

That the erect posture is unnatural and thus a source of great diversity when we consider the nature of a hustling civilization, there is probably no doubt.

For when compared with other creatures it is plain to be seen how much more unnatural it is for man to raise himself from the earth. First he has to creep; then in his efforts to get his balance, practice like a tight rope walker. And is it not fair to presume that he has never perfectly attained his balance without conscious effort?

Besides there are femoral and inguinal hernias, prolapsed kidneys, hemorrhoids, appendicitis, varicose veins, etc., etc., for which the erect posture seems especially responsible as a predisposing cause; because due to the erect posture more or less loss of equilibrium of the viscera is acquired. Thus when a certain organ, say a kidney, is lifted from its place by a sudden strain, or a gradual one by habitual constipation and tedious child births aided by an inherited or acquired general debility and consequently weakness of the ligaments and blood vessels of support, it becomes prolapsed. The right kidney pressing upon the superior mesenteric vein interfering with the return circulation of the appendix, is often the cause of catarrhal appendicitis.

On the other hand a prolapsed kidney pressing upon the ovarian vein as it passes to enter the vena cava interfering with the return circulation of the pelvic organs is often the causative relation to diseases of those organs.

In the proportion that health is maintained without effort; by proper regulation of food supply and an absence of abnormal stimulation or, sedation of function so that sexual erethism or the abuse of stimulants and narcotics, are not a constant menace to the health equilibrium; and by the influence of occupation due chiefly to hygienic environment, the predisposing cause, general debility tends to be removed.

Sometime in the evolution of man, he has changed his warm, balmy climate for a colder

and more humid one. Then leaving his coat of hair, a perfect conductor of air and light, so indispensable for the health of the skin and its appendices, for an artificial one; and consequently his habitation, with the sky for its roof, the air for its walls and the ground for its floor, for those of beauty and grandeur he lives in cities and towns, clothed in fine, close fitting and cumbersome raiment. Thus conditions arise which are disastrous to his health. For from the shades of his towns and cities, and their filth a good soil is furnished for the propagation of germs. And multiplying in number and virulency they make mankind their battle ground of contention.

As environments for the evolution of germ virulency, light, darkness, temperature and filth, the following is true: In the absence of light it is a well known fact that in general bacteria flourish, and to many pathogenic micro-organisms light, especially sunlight, is fatal, instances to the contrary being rare. Temperature is also known to be an important factor in micro-organic life. Probably the primeval environments of the micro-organic world were relatively warm and almost, if not quite uniform. The variations in temperature requirements which we observe at the present epoch means a general differentiation and a slow but certain adaptation to environments which always bring in their train new properties, be the germ pathogenic or non-pathogenic and probably this is the reason why certain diseases are more prevalent in temperate zones and others peculiar to the tropics and exotic in relation to their country; and many indigenous to certain tropical areas but which are not naturalized in this country, such as: oriental plague, Asiatic cholera, yellow fever, dengue, yaws, elephantiasis, etc.; besides these some diseases such as malaria and dysentery appear in a more severe form in tropical than in temperate zones; on the contrary scarlatina, erysipelas, whooping-cough, cerebro-spinal fever and what is known as cholera nostra are more common in temperate zones.

Well lighted and dry dwellings and business houses; clean cities and towns; easy

means and methods of changing abodes, even from one most remote to another; the presence of many trees in a district having an important effect upon climate by modifying winds that makes temperature more equable and renders the air more uniformly humid, a diminution of dust, and certain gases believed to be healthful given off by trees; purer water and sewage systems; land drainage; are some of the social movements tending to prevent these environments.

In respect to accidents, the shock of an Iroquois disaster is not without its advantages towards the prevention of the like by way of example.

And in respect to crimes the same may be said of the most cruel and heinous ones.

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## THE RADICAL CURE OF INGUINAL HERNIA.\*

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BY L. L. M'ARTHUR, CHICAGO.

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From the papers which have just been presented it is evident that since the advent of aseptic surgery several good and efficient methods have been devised for the cure of this very common ailment. During the past ten years the changes which have taken place in methods have been more largely those incident to selection of suture materials and their insertion than to increased knowledge in the anatomy of the parts involved. Having tried all the recognized procedures, I have gradually arrived at the firm conviction that the Andrews' modification of the Bassini operation constitutes the ideal readjustment of structures offering the greatest resistance to subsequent hernia. The sincerest praise this method can possibly have is its extensive use at home and abroad. It is but just that his priority and originality for the operation known in Switzerland as the Gerard, in France as Lucas-Championnière, and now in America as the improved Halsted should be finally recognized.

By a process of gradual evolution, almost all operators have come to the conclusion that to strengthen the weak point of the abdomen

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\*Read before the Chicago Medical Society, May 25, 1904.

al wall, certain structures must be sutured to Poupart's ligament. Now whether it be the internal oblique and transversalis alone, or added thereto the inner flap of the external oblique, it has been found practically to make but little difference in the end results in most cases. Letting the decision of the varying order in which these structures should go, to those who believe that a certain order of attachment must be followed, my aim shall be to show that it is feasible with the patients *own living tissue* to close the hernial canal, after any recognized method, the only difference then being in the nature of the material used for suture.

It will be generally admitted, I presume, that when hernial operations heal it is by a process of aseptic granulation tissue growth between the structures sutured, the "plastic lymph becoming later organized" of the older writers. It will be equally admitted that, no such union of muscular tissue sutured by lateral opposition to tendinous tissue can be expected as is found for example, in the origin of the internal oblique from the outer two-thirds of Poupart's ligament?

Hence when we suture structures to Poupart's ligament with absorbable, or removable sutures, what we obtain is a simple adhesion through the interposition of a thin granulation tissue layer. McBurney's demonstration however in the case of hernia that granulation tissue is but a poor resisting medium led him to abandon the idea that this alone was sufficient to effect a cure; since a stretching and yielding too frequently occurred. It was therefore the idea of incorporating in the lines of union, an unyielding white fibrous tissue, that led me to the experiment of using some of the tendinous fibres of the external oblique muscle as a suture material, with what success I will later detail after explaining the steps of the procedure.

(Here show specimen, drawings, and describe dog experiments. Relate case of scar tissue removed from old case.)

Having made the usual skin incision, exposing the external ring, the latter is prolonged upward in the line of separation, paralleling exactly the tendinous fibres of the

external oblique muscle to its commencing muscular insertion. This divides the aponeurosis of the external oblique into an external and internal flap. The sac having been treated as the operator may prefer, a bunch of white fibres which enter into the formation of the internal pillar of the ring are split off from the edge of the internal flap of the external oblique, quite up to their insertion in the muscle belly, where they are cut loose from the muscle, but left attached to the spine of the pubis. This strip should vary in width from one-eighth to one-quarter of an inch, according to the development of the tendinous fibres which, in children and women are not so strong as in the male adult. In case a Bassini is done, a similar strip is taken from the outer flap, the lower end of which terminates in the fibres of the external pillar of the ring. The operation is then completed according to the choice of the operator, and the Andrews' imbrication method can be used, these strips being used as suture material for a running stitch.

This gives us a living, inelastic tissue, which can be used as a suture material in any of the methods advocated for the radical cure of inguinal hernia. The first stitch is so applied as to give the desired lumen to the new external abdominal ring, using the one terminating in the internal pillar for the first suture, the remaining one for the superficial layer and buried stitches.

I would like to call your attention to the fact that what has in the past been called a canal really is not a canal. The term ought to be abandoned. It would have been better had it never existed, for it is probable that it has been the effort to create and make a new canal to which Dr. Ferguson objects. By retaining the original position of the canal, and its direction, it is possible that the resistance to intra-abdominal pressure is greater than when the two weak points, the internal and external rings, are directly opposite each other.

What constitutes the internal ring is simply the suturing over the cord of the internal oblique in this (indicating) angle, making the cord rest against the lower origin of the



internal oblique and transversalis muscles by bringing down their fibres.

With these strips of tissue a running stitch is made; the little fibrous ends are tied with a piece of silk, which is used to handle them and draw them through. A fine catgut stitch is passed through the tissue at the point it emerges, and, then is passed once or twice around it and incorporated in the knot. The silk is removed, leaving only one knot in the wound.

Undoubtedly, the great value which either the Bassini or Andrews' operation has gained over those which brought the tissues edge to edge, has been that the tissues have such a broad surface cementing one to the other that they act much as two pieces of adhesive plaster. At the end of thirty-six hours they offer much resistance to pressure at right angles to the sticking surfaces. The union is so strong that Dr. Andrews' sometimes lets his patients out of bed on the fourth or sixth day, believing he has a strong union.

If there be used a simple catgut stitch or a kangaroo stitch, or the ordinary absorbable material, at the end of one or two weeks, the internal oblique, which has been sutured to Poupart's ligament, no longer has the suture material holding it there. It is held against white fibrous tissue parallel to its long axis, by a simple plastic cement material. My idea has been that if we incorporate white, inelastic fibrous suture material, we have that which will aid in preventing a recurrence. This operation I have done nearly a hundred times and with perfectly satisfactory results. I know of no recurrence. I have had the opportunity to examine microscopically the scar removed from a patient dying of a gangrenous appendicitis one and a half years after the hernia operation, and the slides show this living inelastic tissue in the scar tissue. It can be very plainly seen.

Having demonstrated that the grafted tissue in the lower animals would not slough, but remain incorporated in the cicatrix, and having done the operation nearly a hundred consecutive times on the human subject, in all ages, from 6 months old to 78 years, when not complicated by gangrene of bowel, I am

fully convinced that we have an additional aid in preventing relapse.

1st. By minimizing the amount of foreign material introduced in the wound.

2d. Lessened danger of sepsis.

3d. Greater resistance to future hernia through the incorporation of the unyielding white fibrous tissue.

4th. Smoother convalescence locally, as there is less caking and infiltration, less febrile reaction.

5th. That at least equally good results are obtainable.

6th. That the ten minutes necessary to the preparation of the strips does not greatly increase the risk.

### POLYNEURITIS.\*

BY L. HARRISON METTLER, A.M., M. D.,  
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ess' Home and Hospital.

What definite knowledge we possess of multiple neuritis is comparatively of recent acquisition. There are many problems in regard to it that are still awaiting solution. The disease is not by any means so well established nor is our information in regard to its true nature as complete as the text-book descriptions would lead one to suppose. We know more about its etiology, prognosis and treatment than we do about its symptomatology and pathology and we are not too well informed about these. A brief survey of the history of the establishment of polyneuritis as a distinct disease entity will in the best way indicate what is yet to be learned in regard to it.

That paralysis and sensory disturbances follow the ingestion of certain toxic substances like alcohol, lead and arsenic and certain infectious fevers, like typhoid, diphtheria, scarlatina, variola, erysipelas, etc., was long noted; but they were spoken of as alcoholic paralysis, lead palsy, febrile sequelae and for the most part were attributed to dis-

\*Read at the 54th Annual Meeting, May 17, 1904.

ease of the spinal cord. As early as 1822 Jackson of Boston first wrote what seems to have been the nearest approach to a scientific description of what we now recognize as alcoholic polyneuritis. His paper was entitled "Arthrodynia a potu" and contained a brief but fairly accurate account of the paralysis, disturbed sensation and mental peculiarities. There is no attempt however at a pathological explanation of this symptom-complex. Still further clinical descriptions of the disease without pathological explanation, were made by Magnus Huss in 1852, and Lanceriaux in 1864. The term alcoholic paralysis covered all of the knowledge of that day. Duchenne in 1855 had given an accurate and elaborate description of the clinical manifestations in his great work. He looked upon it as an ascending paralysis of spinal origin but this was a mere hypothesis unsupported by any post mortem examinations. It was Dumenil of Rouen who in 1864 made the first careful post-mortem examination of a case of alcohol paralysis and announced to the world that the peripheral nerves were diseased while the cord and spinal roots were entirely unaffected. This announcement was apparently too radical and too subversive of all previous notions for the medical fraternity to comprehend and accept at once. Hence Dumenil's first observation was allowed to pass unnoticed. A couple of years later he made a second observation of similar import. This case Leyden denominated one of neuritis but as the post-mortem findings included spinal foci of disease, later writers, like Starr, pass it by as a doubtful or at least atypical form of the disease. While Dumenil's first observation was therefore the beginning of our knowledge of peripheral multiple neuritis as a distinct entity, it was not until about a dozen years later that the really first satisfactory report of a case with the microscopic findings was made by Eichhorst. Three years later Joffroy added still further to our knowledge and in 1880 Leyden at length established peripheral multiple neuritis as a distinct, positive entity. Further advances have been made by Stewart, Eisenlohr, Pitres, Schulz, Leudet, Ross, Buz-

zard, Strumpell, Korsakoff, Oppenheim, Starr, Mills, Hun, Cole and others. It will be noticed that up to Leyden's time, the progress of our conception of the disease was marked by the following steps. At first it was regarded merely as an indefinite form of constitutional trouble, a sort of general toxic paralysis. Then it was recognized as a toxic disease of the nervous system but whether of the brain or spinal cord it was not clear. The paraplegic character of its symptomatic manifestations and their resemblance to the symptomatology of certain recognized spinal cord diseases, caused it in the third step to be regarded as a disease of the spinal cord. When the peripheral nerves were found to be diseased many thought that this was a complication or sequel and that the trouble was still primarily of spinal origin. Even after cases were examined in which the lesions were confined to the peripheral nerves, much was said and written about the symptoms being due to the spinal cord and about ascending degenerations between the cord, its roots and the peripheral nerves. Finally under the authority of Leyden it was accepted by the medical world that there was such a disease as a pure uncomplicated peripheral neuritis of wide extent. Cases might be complicated by cerebral and spinal lesions, or diseases of the brain and cord might have associated with them, either as complications or sequelae, disease of the peripheral nerves. Of pure, uncomplicated multiple neuritis a definite clinical picture was formulated which still remains as the basis of the usual text-book descriptions.

Adopting the alcoholic type of the disease as a model we may briefly note the following as typical symptoms; a rather sudden feeling of weakness with a pricking sensation or other paraesthesia followed by numbness in all four extremities. This ascends more or less rapidly up the legs and arms. The weakness increases and the patient begins to find difficulty in walking. In a few weeks the paralysis becomes so pronounced that there is complete wrist- and ankle-drop. Though all the nerves of the limbs are irregularly involved, the musculospiral and the

anterior tibial seem to be the most seriously affected. At this time the reflexes are lost in both the knee and the ankle. The muscles are noticeably wasted and if tested electrically exhibit more or less completely the reaction of degeneration. The cutaneous reflexes are diminished or annulled and there is some anaesthesia. Hyperalgesia is often a valuable symptom.

Local tenderness in the muscles, less frequently in the nerve trunks, is so characteristic a symptom that it helps to differentiate polyneuritis from other affections with similar disturbances of sensation and motion. Hyperaesthesia may be discovered in areas of the skin along side of areas of hyperaesthesia. As a result of the sensory disturbances ataxia may be present. Hyperidrosis; oedema, swelling in and about the joints and even skin eruptions and ulcers may be among the vasomotor, secretory and trophic manifestations. Let it be observed that these symptoms are remarkably symmetrical in distribution, are limited almost entirely to the ends of the extremities and do not include as a rule the rectal and vesical functions. Such in outline is the clinical picture presented by a pure multiple neuritis but such a pure type of the disease as pointed out by Mills long ago, is rarely observed.

The following case which I saw in consultation with Dr. E. E. Henderson is a fair example of alcoholic polyneuritis.

Mrs. L., age 44, Norwegian. Nothing of moment in the family history. Had measles, pertussis and a "light touch of pneumonia." Has otherwise always been strong and healthy. Has been long addicted to the use of alcohol which at times she would take to excess according to the testimony of her husband. A week before I saw her she suddenly noticed a feeling of numbness with gnawing and creeping pains all over her body but especially in the outer parts of her limbs. Soon weakness in the legs and arms supervened and when she came under observation there was complete paralysis with wrist and ankle-drop. The paralysis was flaccid in type and seemed to involve the extensor muscles more than the flexors. As a consequence the fingers were all partially flexed. The muscles

were soft and flabby but not yet much atrophied. They were all extremely sensitive upon pressure and passive movement. In fact so sensitive was the patient that the slightest touch caused her to scream with pain, which interfered with the completion of the examination. The deep and superficial reflexes could not be elicited. There was a well defined disturbance in the pain, temperature and muscular senses. Hyperaesthesia rather than anaesthesia characterized the tactile sense. Poor eyesight was complained of but the vision was not examined. The pupils were normal in size but sluggish in action. The hearing was perfect. There were no girdle pains nor any involvement of the rectal and vesical sphincters. The mind was affected and there was at times mild delirium. The psychosis was of the well known confusional type with amnesia and delusions in regard to time and space. The patient laughed and chatted in a manner that at first would not be thought to reveal any psychic disturbance. The happiness and feeling of well-being was very noticeable. She was reminiscent but would project events of the past into the future. Though it was a cold, midwinter day and she had not been out of her bed for a week, she talked easily and fluently about having just come in from the garden where she had been picking some flowers and caught some burrs and thistles on her clothing, which she tried to pick off as well as her paralyzed arms would let her. The amnesia, disorientation, pseudoreminiscence and confabulation were typical of Korsakoff's syndrome. Under treatment there was marked improvement, the wrist-drop quite disappearing. After several weeks however she died of hypostatic pneumonia.

In the alcoholic type of multiple neuritis, the cranial nerves and brain functions are very often affected, so much so that some authorities look upon them as part of the typical complexus of symptoms. Among the cranial nerves the third is most frequently affected; then the sixth. Reflex pupillary rigidity is rare but nystagmus, diplopia and ptosis may all be expected. The optic nerve is scarcely ever involved though optic neuro-



tis and even partial atrophy have more than once been observed. The cerebral symptoms I have already referred to. Polyneuritic psychosis had long been noted but it was Korsakoff who, fifteen years ago, gave it the importance which it really seems to deserve. It is probably due to a mild degree of alcoholic encephalitis though the hypothesis has been put forth that it is the result of the practical isolation of the patient's mind by the shutting off of his normal afferent impulses through the widespread peripheral neuritis.

In all the more recent descriptions of polyneuritis a large and increasing space is being given to the complications, accidents and associated manifestations of cerebral disease. Sometimes these are so prominent and so unique that one wonders whether the neuritis is not the complication instead of vice versa or at least whether both the neuritis and the complications are not mere local expressions of a still more general underlying trouble. This is not so obvious perhaps symptomatically as it is pathologically. The symptoms of the peripheral disease necessarily obscure those of the central trouble; but upon post-mortem examination lesions of the cord and brain are very frequently being found associated with lesions of the peripheral nerves. These lesions are largely of a poliomyelitic character in the cord with atrophy of the cells and degeneration of the spinal roots. The same sort of lesions are observed in the cranial nerves and the encephalic structures generally.

Upon the increasing number of these observations the opinion is growing among pathologists that multiple neuritis is not so much a disease of itself as a mere local expression of a much more extensive intoxication of the nervous system. As far back as 1886 Mills formulated the following conclusions in regard to multiple neuritis as a disease: In its pure and simple form it is very rare; it is more frequently associated with myelitis or encephalitis or with both myelitis and encephalitis. The combinations thus possible with peripheral polyneuritis are almost innumerable. According to the more recent observations of Marinesco, Bick-

eles, Sana, Goldscheider and Moxter, Preiss, Schlesinger, Oppenheim and others polyneuritis is characterized almost constantly by alterations in the central nervous system. In the words of Oppenheim the same poison produces these central alterations that produces the peripheral neuritis. They are chiefly diffuse and disseminated degenerations of the roots and of the posterior and anterior horns.

The very recent observations of Clarke and of Cole confirm these findings and add to them alterations of like character in the brain. All forms of multiple neuritis, whatever the toxin may be that provokes it, exhibit with rare exceptions the above pathological picture. According to Cole these central changes are not attributable to the peripheral neuritis. Though the peripheral neurones are the ones mainly affected in many of the cases of polyneuritis, in other cases the morbid process implicates chiefly the central neurones. The two groups of cases do not appear to be sharply divided.

Upon this pathological basis the frequency and number of the so-called complications and accidents of polyneuritis become explainable. Nay, more, the question legitimately presents itself as to whether these ought to be considered complications and accidents rather than integral manifestations of the disease of which the peripheral neuritis is but one of the local expressions. Cole frankly affirms that the lesion of the peripheral neurones is only one of many manifestations of the disease, and is accompanied by lesions, identical in nature, affecting many groups of neurones situated entirely within the central nervous system. In this connection it is interesting to note that Charcot was wont to contend that peripheral neuritis is not a distinct disease but a substratum underlying the symptoms of several very different affections and that the diseases grouped under the term peripheral neuritis are so different in nature that to thus classify them together only causes confusion.

The force of this contention is clearly brought out when we recall how Landry's paralysis, pseudotabes, certain syphilitic

manifestations, endemic diseases like akatama, Kakkeor, beriberi, anaesthetic leprosy, to say nothing of alcoholic, lead, arsenic and other intoxications and infections are put down as cases of multiple neuritis as though this covered the whole pathology of the disease. This being so among the research workers, it is not surprising that out in the profession generally no term is found to be more abused and misapplied than multiple neuritis unless perhaps it be neurasthenia. One would have supposed that the character of its etiology, namely a generalized intoxication and an infection due in all probability not to the microorganisms themselves but to their poisonous products, as well as the great array of its clinical manifestations would long ago have put a check upon the growing tendency to regard multiple neuritis as a simple and distinct disease of common observation.

Of the cases that I have seen, I cannot recall one in which I was satisfied that the disease was strictly and solely peripheral. In other words all of my cases presented clinically complicating symptoms, sometime or other in their course, that led me to believe that I had central as well as peripheral lesions to contend with.

Nevertheless cases do occur that are believed to be strictly and solely peripheral or what is considered the same thing cases in which the post-mortem findings are limited entirely to the outer ends of the nerves. The older pathologists were wont to classify these peripheral changes under the head of inflammation and call them respectively perineuritis, interstitial neuritis and parenchymatous neuritis. In the forms of polyneuritis now under discussion, the more recent views of pathologists incline to discard the inflammatory conception of the disease process and to look upon it as a degeneration, non-inflammatory but toxic in origin. Oppenheim says that the signs of inflammation, as a rule, are not so marked as are the signs of atrophy. From the examination of his three cases Cole concluded that the central and peripheral lesions expressed a nervous degeneration of toxic origin, in the production of which no

essential part is played by changes in interstitial tissues supporting the nervous structures or by changes in the blood vessels concerned with their nutrition. As long ago as 1887 Buzzard stated that though the cases were increasing in which there were no lesions of the cord but merely peripheral disease, the fact was both a remarkable one and hard to explain. He recalled that Duchenne fell back for an explanation upon dynamic, if not organic, changes in the cord; that De Watteville suggested that the cord was functionally damaged and thus caused a neuritis trophically; and that finally Erb believed that the anterior horn cells were affected pathologically just short of an actual lesion. Today the essentially trophic character of the peripheral lesion is being established more and more positively. No pathologist of repute at the present time regards the peripheral lesion in the toxic and infectious forms of polyneuritis as other than atrophic in character. The *modus operandi* by which the poison brings about this parenchymatous degeneration is almost as much of a mystery as it was in the time that Buzzard wrote. As a result of the increasing observations of central as well as peripheral lesions the opinion is growing that in these toxic and infectious cases the peripheral degeneration is dependent upon the central damage, organically or functionally, of the cells. In other words the peripheral changes are poliomyelitic in origin. More conservative pathologists still believe that there is a direct effect of a destructive character exercised upon the peripheral nerves by the toxin simultaneously with the effect of the same poison upon the central elements.

There are a few cases of polyneuritis in which such inflammatory manifestations as swelling and redness of the nerves, hyperaemia of the nerve-sheaths and even minute hemorrhages have been observed. In these the parenchymatous degeneration is in all probability secondary to the interstitial inflammation or periaxial neuritis. The endemic types of polyneuritis reveal most frequently this pathological picture.

Adopting the recent and excellent classi-

fication of polyneuritis by Stintzing we have the three following types:

1. Neuritis of inflammatory origin, including the neuritides of leprosy, beriberi and certain forms of unknown origin. These are not common in this country and hence need not detain us here.

2. Neuritis of degenerative origin. These are conveniently divided into those of toxic origin (alcohol, arsenic, mercury, sulfonal, carbon dioxide, anilin, etc.), those of infectious origin (typhoid, variola, scarlatina, influenza, erysipelas, pneumonia, rheumatism, parotitis, gonorrhoea, puerperal fever, tuberculosis, syphilis, etc.), those of constitutional and cachectic origin (diabetes, carcinoma and marasmus) and those of systemic origin (following lead poisoning). These constitute by far the larger class of multiple neuritis, and of them the alcoholic is so greatly more numerous and typical as to constitute the model upon which the symptomatology of the disease is based. As I have endeavored to show and believe, the neuritis in these cases is but one expression of a much more extensive disease; it is a non-inflammatory degeneration due to central disease in some cases or merely associated with central disease in other cases. Both central and peripheral lesions are dependent upon the underlying intoxication.

While we are not yet in a position to deny the existence of a pure and simple neuritis of this class we are in a position to affirm that it is rare and that in the vast majority of the cases the whole nervous system is more or less involved.

This conclusion it will be obvious, has a strong bearing upon the variableness of the symptomatology and diagnosis of this class of polyneuritis and especially upon the prognosis and treatment of the particular case in hand.

3. Neuritis of both inflammatory and degenerative origin in which are to be included some cases of Landry's paralysis, postdiphtheritic paralysis and some other primary forms of unknown origin.

My principal purpose in all this is to warn against the careless use of the term

multiple neuritis; to urge a more careful study of the nature of and nosological position of the disease; to recommend a more accurate and definite diagnosis in all cases where that is possible; and to treat each case upon its own merits after fully determining the exact origin, lesion and severity of the disease process. To take up these individual points and discuss them in detail would transcend the object of this paper and consume more time than has been allotted to me.

100 State St.

#### Discussion of Dr. Mettler's Paper.

Dr. Frank P. Norbury, Jacksonville: I believe that the mental syndrome of Korsakoff is present in nearly all insanities or mental disorders attributable to toxemia. I have even seen cases of paralysis agitans presenting this syndrome, although I do not claim that such cases are essentially toxic in origin. I have also noticed it in the acute delirium of meningitis, of the convulsive type, spoken of as characteristic of multiple neuritis. I think it will be noticed that it is not unusual in the mental disturbance of Bright's Disease, of cerebral syphilis and certain cases of alcoholic mania, if the opportunity is given of seeing and comparing these cases.

I saw a case a few days ago, which I am sure could be classified under the syndrome of Korsakoff as described by Dr. Mettler. We should not give all of the etiological importance to multiple neuritis or polyneuritis, but rather say that it is more significant of a mental disorder primarily of toxic origin.

#### CHRONIC MYOCARDITIS OCCURRING IN ELDERLY PEOPLE WITH ESPECIAL REFERENCE TO TREATMENT.\*

BY E. H. BUTTERFIELD, M. D., OTTAWA.

*Pathology and Aetiology.* With reference to the pathology of the myocardium a vast amount of research on the subject has been made, and through these investigations we are brought to a better understanding; still the fact remains that when we attempt to apply clinically the many pathological subdivisions of disease of the myocardium, it only leads to confusion, and post mortem examination reveals alone the true condition.

Strümpell says of Myocarditis: "We have to do with a lesion of the cardiac muscle it-

\*Read at the 54th Annual Meeting, May 17, 1904.



self, or of its nervous apparatus which reduces the functional capacity of the heart, and thus excites precisely the same disturbance of the circulation as are produced in valvular disease of the heart by purely mechanical conditions. The heart is enlarged, somewhat dilated, though its walls are usually somewhat hypertrophied. In uncomplicated cases the valves prove entirely normal. In the cardiac muscle, however, may be found cicatricial, indurated spots, arranged irregularly and often very abundant. This cicatricial or indurated tissue may in part or almost entirely take the place of the normal muscular fibre."

Hardening of the coronary arteries is commonly present in indurated myocarditis. Certain it is that sclerosed coronaries favor degeneration of the heart muscles.

Weigert states that sclerosis of the coronary arteries is an important cause of fibroid changes in heart wall. The cardiac circulation is slowly interfered with by the hardened coronaries, thus superinducing an atrophy of the muscular fibres without destruction of connective tissue and finally the deposition of fibrous tissues.

Fatty degeneration occurring together with fibrosis of the heart wall, he attributes to the amount and quality of blood supply to the heart muscle itself. For instance, where the main coronary artery is slowly obstructed and at last completely occluded at its origin, generalized fatty degeneration is likely to occur. When smaller branches are slowly obstructed but the main branches remain patent, both conditions are likely to exist, e. g., a fibroid condition together with fatty degeneration. In a series of 21 cases he cites fatty degeneration in 9, as well as fibrosis. In nearly all the heart was hypertrophied. In 9 there was chronic interstitial nephritis, and in 7 atheroma.

Camac in his very excellent article on Chronic Myocarditis, in John Hopkins Bulletin for February, lays down the following laws with reference to the etiology:

I. "Intact muscle and equilibrium of the nervous mechanism are essential to rhythmicity of cardiac muscular action.

II. Equilibrium of the nervous mechan-

ism and rhythmicity of cardiac muscular action, essential to adequate and uniform blood supply to heart tissue.

III. Pure blood uniformly and adequately supplied and essential to proper metabolism.

IV. Any agent interfering with these essentials will cause:

1. Faulty metabolism.

2. Lowered resistance and remote consequences, which in themselves may become factors in still further disabling the heart muscle.

With reference to the special etiological factors might be mentioned *Alcoholism*, also *Constitutional Syphilis*, leading as it does oftentimes to general arteriosclerosis, as well as producing the same changes in the coronaries.

Chronic interstitial nephritis is certainly a factor. Overwork, worry, shock, fright, anxiety, might also be put in the category of causative factors, perhaps a secondary way, however.

Symptoms of myocardial disease are notoriously uncertain, so says Osler. Camac, in his article at its conclusion writes, that even with the best means at hand the diagnosis of chronic myocardial disease is at least difficult and its nature obscure.

*Physical Signs and Symptoms.* Somewhat indefinite in earlier stages. Sudden death may occur without any previous complaint, even in cases far advanced. Patient generally middle aged or elderly may complain of breathlessness, tightness across chest, palpitation or perhaps pain anginoid in character. Irregularity is not necessarily present, but intermittence is of frequent occurrence.

Inspection, palpation and percussion gives us very little aid in early diagnosis, excepting perhaps to determine the size and impulse of the heart.

*Auscultation.* In the heart rhythm and sounds do we get early evidences of myocardial disturbance. *Musser* puts tachycardia, feeble, small pulse, dyspnoea on exertion, and arrhythmia, as the most important early signs of myocarditis. When dilatation occurs there is often the gallop rhythm, shortening of the

long pause, and a systolic murmur at the apex.

Osler's Classification of Myocardial diseases for Clinical purposes is most excellent.

"(1) Those in which sudden death occurs with or without previous indications of heart trouble. Sclerosis of the Coronaries exist, in some instances with recent thrombus and white infarcts; in others, extensive fibroid disease, in others again, fatty degeneration."

"(2) Cases in which there are cardiac arrhythmia, shortness of breath on exertion, attacks of cardiac asthma, sometimes angina attacks, collapse symptoms with sweats and extremely low pulse, and occasionally marked mental symptoms."

"(3) Cases with general arteriosclerosis and hypertrophy and dilatation of the heart. They are robust men of middle age who have worked hard and lived carelessly. Dyspnoea, cough, and sweating of the feet are the early symptoms, and the patient comes under observation with either the gallop rhythm, or an irregular heart with an apex systolic murmur of mitral insufficiency."

*Prognosis.* Romberg divides Chronic Myocardial diseases into two stages: The duration of the first stage he places from 10 to 23 years. Variation in pulse and heart function with dilatation of the right and left ventricles occurs during this period. The second stage extends over a period of from two to three years.

Morrissey sums it up from the study of 250 cases that the chief guides in prognosis are:

1. Efficiency of the heart.
2. Degree of hypertrophy.
3. Condition of other organs.

His advice is "give your prognosis on the best suppositions," "treat your patient on the worse."

*Treatment* should include rest, diet, exercise, active and passive in suitable cases. Freedom from care and the judicious use of remedial agents.

Rest is of the utmost importance where there is a break in compensation as evidenced by dyspnoea on moderate exertion, even though there is no oedema. Here it is that rest, diet, and heart tonics will allow the weakened muscle to recover itself. Then

when compensation is restored, graduated exercise is a valuable aid to the weakened heart muscle.

The Schott or Nauheim Method which consists in a system of resistance gymnastics, together with tepid carbonated saline baths 80 to 90 degrees, which is certainly very useful in selected cases.

These baths and exercises can be very well carried out artificially at home.

Time forbids going into detail so I will refer those who are interested in the subject to the Schott methods of the treatment of chronic disease of the heart, by W. Bezly Thorne.

With reference to the treatment of Myocardial disease by exercise either active or passive, one must be guided always by conditions present.

In the matter of diet, Oertel advises:

(1st) The reduction in the amount of liquid, as this is an important factor in the reduction of fat in many cases. Also, increasing the density of the blood. He allows daily about 36 oz. of liquid which includes the amount taken with the solid food.

(2d) The diet should be largely of proteids. Balfour lays down rules for feeding those with weak hearts, which might be well to remember.

1. There must never be less than five hours between each meal.

2. No solid food is ever to be taken between meals.

3. All those with weak hearts should have their principal meal at midday.

4. All those with weak hearts should have their meals as dry as possible.

Flatulence and indigestion are to be avoided in a weak heart for obvious reasons, and by the observance of some of these rules we can eliminate in part, if not in all cases, anything which may tend to embarrass the action of an already struggling organ.

*Remedial Agents.* Drugs.—Digitalis is useful when cardiac insufficiency, as evidenced by dyspnoea, irregular, weak and rapid heart, and oedema, exists.

In cases of Cardiac Arrhythmia, with an irregular, very slow and weak pulse, and no oedema, digitalis is contra indicated. Abso-

lute rest in bed, and the judicious use of heart stimulants are indicated here.

Digitalis is a valuable cardiac tonic, and especially to the myocardium. The effect upon the heart is to strengthen its systole thus emptying its cavities more perfectly, preventing the accumulation of residual blood, and raising the blood pressure, thereby improving metabolism.

The cumulative effect of digitalis which we hear so much about may be avoided by employing moderate doses of a reliable preparation of the drug, namely the Tincture or French Infusion of the German leaves. The dose of the tincture is m X to XV. Of the infusion  $\frac{1}{2}$  oz. two or three times daily. It is well to stop the use of the drug just before tapping is resorted to, or in cases of marked decrease in the amount of urine excreted. It is also well to remember that there is not an absolute rule for the dosage of digitalis. Idiosyncrasy may favor larger or smaller doses.

In cases of general atheroma together with Chronic Myocarditis, it should not be forgotten that it is more dangerous to use the drug in such a condition of the arteries than under normal conditions, for the increase in tension may rupture a brittle cerebral vessel. Balfour suggests the use, in these cases, of the Iodide of Potassium in moderate doses, or the nitrites in conjunction with the administration of digitalis.

Strychnia is a valuable tonic in Myocarditis, and can safely be administered for years if one is accurate in the dosage and regular in the times of administration, carefully watching the effects.

When the percentage of haemoglobin is lowered, iron in some of its preparations is useful. Arsenic in the form of Ac. Arsenic given in the granule from 1-50 to 1-100 of a grain two or three times daily, is exceedingly beneficial.

If anginoid symptoms are present, Nitroglycerine will relieve the pain and lower the blood pressure.

Vascular stimulants ought to be combined with cardiac stimulation where occasion demands.

The administration of mercurials or cho-

lagogue cathartics are often necessary to deplete and lower blood pressure.

Morphia is a very useful and reliable remedy given hypodermically to secure quiet sleep and to relieve dyspnea and anginoid symptoms. It lowers blood pressure also and has no ill-effect upon the heart or respiratory centre. Nothing can replace it in certain cases.

Time and space forbids mention of many other useful drugs to be employed in senile myocardial affections.

*To briefly summarize.* Chronic Myocardial disease ought to be detected early if we expect to get results from treatment.

The diagnosis is difficult even with the most approved methods.

In making a prognosis it is well to remember that a rational treatment will often be followed by most excellent results, prolonging life indefinitely, even though irreparable conditions exist in the myocardium.

#### Discussion of Dr. Butterfield's Paper.

**Dr. A. W. Baer, Chicago:** I want to say a word about one drug mentioned by the essayist, and that is, digitalis. I know of no drug that is misused more and none from which the doctor gets so little satisfaction as digitalis. Most of the infusions are not made from the leaves because the manufacturers put on the bottle containing the fluid extract the directions for making the infusion from the fluid extract. You cannot make an infusion from a fluid extract that will give you any good results. It takes two hours to make the infusion from the leaves. Whenever I write a prescription for the infusion of digitalis, I always make it a point to send the patient to the drug store where I know it will be made properly from the leaves and not from the fluid extract. If physicians will see to that, they will get much better results from the use of the infusion of digitalis than has been the case in many instances.

**Dr. Robert H. Babcock, Chicago:** There are a few points that I wish to emphasize with reference to the subject of chronic myocarditis. The first is that the diagnosis of the pathologic state of the heart muscle is one of such difficulty, that in many instances it escapes our ability. We can diagnose cardiac inadequacy, but we have no means of determining clinically just how extensively degenerated the heart muscle is, nor where the degenerated areas lie.

As I peruse the German literature, I am impressed with the fact that such authors as Rosenbach and Romberg do not attempt to diagnose absolutely chronic myocarditis or fatty degeneration, and similar conditions; but, they do diagnose cardiac inadequacy. Consequently, the prognosis of chronic myocarditis is one of the most difficult problems the clinician has



to solve. In many instances it is like betting on a horse race to say what the heart is going to do next.

We see some cases in which the heart, apparently, is running away with itself and is manifesting so much inadequacy and disturbance of action, that it seems as if the patient cannot live many days longer, and yet, that very patient will rally and live for months and sometimes years.

On the other hand, we see cases, in which, judging from the absence of alarming symptoms, the cardiac action and such evidences as we can get from a physical examination of the patient, that he ought to live for years. Then, we are very much surprised when the patient dies suddenly within a very short time after we made the favorable prognosis.

The symptoms of chronic myocarditis are not always commensurate with the degree of changes. Some of the cases that surprise us by living on for months and years, will, on the post mortem table, show most extensive myocardial changes. The other cases that surprise us by dying suddenly, do not always show such extensive changes at the post mortem.

The treatment of chronic myocarditis must be preservative. In most cases we can do something when the incompetence has become marked. We can do very much to preserve the heart from becoming seriously inadequate, and to that end, I believe, judicious exercise is the most important factor at our command. I have under my care in Chicago numbers of elderly men in whom I believe chronic myocarditis is present, who are preserving their compensation, who have recovered from inefficiency sometimes by the judicious physical exercise I have prescribed; sometimes carried on by themselves, and sometimes under the control of a skilled physical gymnast.

Our treatment, whether therapeutic or otherwise, must, it seems to me, be based on the state of the blood pressure if we wish to attain success. When the blood pressure is abnormally high, we cannot expect the heart to reinstate itself and preserve its compensation against such tremendous peripheral resistance, and, therefore, the blood pressure must be lowered. We must, in other words, reduce the amount of work the heart is called upon to do.

There are other cases in which the blood pressure is so low, that if we wish to reinstate the heart, we must use some means to re-establish a proper degree of blood pressure.

I have in mind now, a man, who, judging from the size of his heart, its irregularity, etc., has a chronic myocarditis. All his symptoms have disappeared. His bloodpressure, which, at first, was abnormally high, has been lowered and the heart is now in a very fair degree of compensation.

**Dr. Hugh T. Patrick, Chicago:** By reason of some experience that I have had, I have, for a long time, been led to give some weight to little points when making a diagnosis of cardiac inadequacy. They are very simple and easy, and although I am not very familiar with the

literature, yet I have never heard mention made of these points.

In trying to get an idea of the competency of the heart at a single examination, one must judge very largely by the history, and, I think, you all will agree with me that the statements of patients, even as regards dyspnoea on exercise, are, as a rule, very unreliable. This is especially true in the case of nervous patients, patients who are subject to attacks of pseudo-angina and who have become very apprehensive, whose heart disease is of the brain rather than of the heart itself. I believe that it is unusual for examiners to make a test as to the adequacy of the heart at the time of the first examination. I practice that, as a matter of routine. I have the patient hop up and down my office on one foot until fatigued and out of breath. I take the pulse right then, before I have the patient sit or lie down, and again during the period of relaxation or reaction or fatigue which always follows the exercise, because irregularity or intermittence, with marked falling off of the arterial tension indicative of cardiac inadequacy is then most apt to be detected. Patients, who have been to other men who know more about the heart than I do, all object at this little maneuver of having to hop up and down the office on one foot. Hence I believe that this is not done often.

In cases in which the diagnosis is still more difficult, I send the patient down stairs with instructions to walk up four or five flights to my office. That will yield the same results as the hopping exercise.

Another little point is taking the pulse at the foot. I do not know of anyone doing that as a routine measure, except myself. Perhaps, there are better methods for getting information but I have found it very useful. I do not use the sphygmograph, and, perhaps, skilful men, like Dr. Babcock, can get all the information they want from the wrist, but I cannot. By taking the pulse of the foot I ascertain the condition of the heart and the state of the vessels as I cannot get them elsewhere. I also do that during the period of fatigue following the exercise.

After having examined the arteries of the foot as a matter of routine for several years, I was rather pleased to note recently that some man, in his investigations regarding the distribution of arteriosclerosis, found that the larger proportion of vessels involved occurred in the arteries of the lower extremities, below the knees. So that examining these arteries sometimes will give us very valuable information not only regarding the cardiac adequacy, but also with reference to the condition of the arteries.

There is one other point that I wish to mention, and that is, that the dorsal artery and the artery below the malleolus are compensatory as regards size, just as are the radial and ulnar at times. Examining the dorsal artery of the foot alone is not sufficient, because sometimes the pulse is entirely absent in this artery, whereas, in the artery below the internal malleolus the pulse may be full and strong.

## *The Aesculapian Society of the Wabash Valley.*

*This Society is Composed of Practitioners of Illinois and Indiana Residing in the Valley of the Wabash River. It was Founded in 1846. Regular Meetings are Held in May and October. The Membership is 250.*

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The Regular Annual Meeting was held in Danville, Ill., May 1904. The following papers were read.

### SCARLET FEVER.

BY CHAS. B. JOHNSON, M. D., CHAMPAIGN.

Scarlet fever is universally recognized as one of the most important of the erythematous or eruptive fevers. But previous to the 17th century it seems to have been hopelessly confused with measles, its sister disease.

In 1619 an eruptive fever epidemic prevailed at Wittenberg so pronounced in type and so clearly distinct from measles that a wide-awake medical man by the name of Sennert was enabled to grasp and portray to the world its leading characteristics. At this period the new disease received from the medical profession the name *rosalia*, but the common people in the German speaking countries called it "rothen hund," or in plain English, "red dog." About two hundred and fifty years ago the great English physician, Sydenham, bestowed upon it the appellation it still bears, namely *Scarlatina*.

While scarlet fever is confined to no one land or climate, nevertheless it is so universally prevalent in Europe and America as to cause these countries to be regarded as its true breeding ground.

The scourge first reached America in 1735 when it prevailed as an epidemic in the colony of Massachusetts, and from whence it slowly extended along the New England coast. However, for a long period thereafter the disease must have been uncommon for

according to the celebrated Dr. Benjamin Rush, who flourished in revolutionary days, it was the fortune of the average medical man of his era to meet a case but once or twice in a lifetime.

But since the time of Dr. Rush scarlet fever has become especially and unwelcomely prevalent in our country. However, it is said to be very much less common in the Southern States of the American Union than in the Northern.

This disease is remarkable for being in one instance the mildest of ailments and in another the most malignant and quickly fatal. Indeed, in this matter of extreme variety as regards severity, it fails to find its parallel in the whole category of human maladies.

But notwithstanding the mild form in which scarlet fever so often prevails, it is, nevertheless, in the aggregate the most fatal of the eruptive fevers. For illustration, in Chicago during the two decades between 1858 and 1877 there were but two years in which the fatality from smallpox exceeded five per cent of all the deaths; and but one year in which the mortuary records from measles was more than three per cent of the total mortality; meanwhile in this same two decades there were seven years in which the scarlet fever fatality was more than 10 per cent of the whole number of deaths from all causes.

Briefly defined, scarlet fever is an acute, infectious disease, attended with fever, sore

throat and a fine scarlet rash which extends over the surface of the body; a symptom-complex that is the direct result of a specific contagious principle not yet clearly defined or isolated.

Scarlet fever has long been recognized as a contagious disease, and while everything points to a micro-organism as the infecting agent, yet the individuality of this has not been satisfactorily demonstrated. Several years ago Dr. William J. Class of Chicago conducted a series of investigations that seemingly pointed to a bacterium, called *diplococcus scarlatinae*, as the direct medium of infection.

A certain number of observers accept Dr. Class' demonstrations, but a yet larger group of investigators decline to look upon the *diplococcus scarlatinae* as the causative agent in scarlet fever.

The usual incubation period is three to five days, but cases are on record where persons have been stricken a few hours after encountering the contagion, while exposed to the same influence, others have gone two or three weeks before manifesting symptoms of the disease.

Compared with other contagions that of scarlet fever presents some peculiarities: It seems to have more tenacity, or in other words will live longer than the contagions of either smallpox or measles. For instance a community stricken with either of the last named diseases will promptly supply all its susceptible material, so to speak, and the scourge will run its course quickly and die out, seemingly, from exhaustion. Not so with scarlet fever, for a locality once infected by this ailment will be held in its toils for an indefinite period, and after presenting a number of victims will enjoy an immunity from the disease for possibly a year or two; then with no known new source of contagion the scourge will light up a second time to again die down; and not unfrequently this pathological routine is repeated two or three times before the original source of infection is gotten rid of for good.

Smallpox is notoriously the most contagious of all maladies, and perhaps measles comes next. Fortunately, to mankind in

general, scarlet fever is much less contagious than either of the diseases named. Quite a number of persons are immune to scarlatina, but children between the ages of one and five years are especially susceptible to its contagion, and 90 per cent of all cases are said to occur before the tenth year. Infants at the breast are to a considerable degree immune, and so likewise are adults, indeed, the longer one lives the less is his liability to scarlet fever. Consequently the work of the sanitarian in seeking to prevent children from contracting this disease finds encouragement in the fact that every year added to the life of a child who escapes infection, adds that much in the way of immunity.

Clinicians recognize three principal forms, or types of the disease, namely, *Scarlatina simplex*, or mild scarlet fever; *scarlatina anginosa*, or septic scarlet fever; and *scarlatina maligna*, or toxic scarlet fever.

I will not worry you with a labored description of each of these forms, but will let it suffice to say that: *Scarlatina simplex* is often so mild as scarcely to attract attention. Generally, however, the disease is ushered in by a slight chilly sensation, followed by fever that rarely exceed a hundred degrees, some sore throat and at the end of 24 to 36 hours a light scarlet rash, that appears on the neck, breast, back and maybe, the cheeks. Often, however, the rash is so slight and indistinct as to be overlooked. A day or two later the symptoms all subside and to all intents and purposes the patient is as well as ever.

*Scarlatina anginosa*, or the septic type is usually ushered in by the same symptoms as the mild, but in aggravated and intensified degree. The initial chill is more pronounced, the fever much higher, ranging from 103 to 105 degrees, the throat is much more severely inflamed and the general discomfort of the patient is very much greater than in the mild type. In addition to these symptoms there is a pulse ranging from 130 to 160, often persistent vomiting and a little later there is developed the characteristic "strawberry" or "cat's tongue." Meanwhile the lymphatic glands are swollen and inflammation of the kidneys with scanty, albuminous urine, is



likely to develop. Furthermore the lungs, pleura, peritoneum, pericardium, heart, brain, eyes and ears are one or more liable to attack in this the septic type of scarlet fever.

In the malignant or toxic type the patient from the very beginning seems to be overwhelmed with the scarlatinal poison and the little sufferer from being in its seemingly usual health is suddenly seized with projectile vomiting or with convulsions that in a few hours may terminate in death. In other instances the first symptom to attract attention is a profound coma from which the patient never awakens.

The rash of scarlet fever is made up of an almost indefinite number of fine red points situated so close together as to constitute, seemingly, a continuous red surface. Usually the eruption begins on the neck, under the clavicles, from whence it extends down over the trunk and extremities and up over the cheeks and forehead; meanwhile the nose, lips and chin remain exempt from invasion.

In three or four days the rash fades and a week or ten days later occurs the process of desquamation which may take place wholly in fine branny scales, or in large flakes. Usually the fine branny scaling occurs on the trunk, while the larger, coarser, crop of discarded epidermis is yielded by the extremities. Cases are on record where desquamation from the hand has been so entire as to constitute a kind of glove, as it were.

Thus we see that a case of scarlet fever in running its usual course covers four distinct periods or stages, namely, the stage of incubation, occupying most generally three to five days; the stage of invasion, one to two days; the stage of eruption, three to five days; the stage of desquamation, one to three weeks, and which is usually completed about one month from beginning of disease.

In most instances the diagnosis of scarlet fever is not difficult after the appearance of the rash, but before the coming out of this the best the medical attendant can do is to give a pretty well-grounded conjecture relative to the true nature of the ailment. When

there are other cases, fever, sore throat and vomiting, constitute a trio of symptoms that should make the practitioner realize what he may have to contend with a little later on. As a rule in scarlatina the rash appears on the second day of fever, while that of smallpox is first seen on the third, and in measles on the fourth day.

Furthermore, in contrast to what is true of smallpox, and to a degree of measles, the appearance of the eruption in scarlet fever is not accompanied with a reduction of temperature, but rather the opposite. Again the rash of scarlet fever is smooth, or at least relatively so when contrasted with the goose-skin sensation imparted to the hand by measles and the well known shotty feel of smallpox. Then too, as elsewhere noted, in scarlatina the chin, lips and nose are left free from the eruption, and in contrast appear abnormally white; whereas in measles these parts are blotched and swollen.

Of as much, or, indeed, more importance than the disease itself are the complications that frequently attend and the sequels that too often follow scarlet fever.

One of the most common complications, and one too that often remains behind as a most tedious sequel is otitis media that results from an extension of the throat infection up through the eustachian tubes. Frequently in these cases the tympanum gives way and there results a purulent, stinking otorrhea, often very protracted in its course. In most cases of scarlatina the lymphatic glands are hypertrophied to a greater or less degree. Sometimes this occurs with the cervical and post cervical glands to such an extent that the enlargement completely encircles the neck and produces what some of the older authors called a "brawny collar," and others a "tippet-neck." In some cases an abscess forms in these enlarged glands and a long period of suppuration in consequence is apt to follow. Occasionally the scarlatinal toxin extends to the joints and a so-called scarlatinal rheumatism results. But in reality the arthritis is not rheumatism but a true infection. Sometimes too, an organic valvular affection of the heart is a sequel of scarlet fever.

But perhaps the most common as well as the most serious complication and sequel of this disease is nephritis, which may be so mild as to be entirely overlooked or so serious as to cause suppression of the secretion of urine and resulting death from coma in a few hours. The scarlatinal toxin produces nephritis precisely as it does otitis and arthritis and a great many chronic and fatal cases of Bright's disease owe their origin to an attack of scarlet fever so mild and so imperfectly developed as not to have attracted attention.

When a child is stricken with scarlet fever it should at once be separated from other children in the family and where possible put in an upstairs room from which all superfluous furnishings have been removed and to which no one should have access save the child's nurse.

Mild cases of scarlet fever require little, or no medicinal treatment. Small doses of aconite for the fever, a mentholated or carbolized spray for the sore throat, an emollient to the surface of the body and care as to diet is about all that is required. However, as scarlet fever is, notoriously one of the most treacherous of diseases, and as the mildest case may be suddenly followed by some serious complication as a severe nephritis, every patient, no matter how light the attack should be kept under surveillance for from four to eight weeks after the inception of the first symptoms.

But while as before stated mild cases require little in the way of medication there are few diseases that call for more prompt and judicious treatment than a severe case of septic scarlet fever. For the high temperature and attending restlessness and delirium the sponge bath assiduously applied is one of the very best remedies, and in some instances the tub-bath or wet pack is yet more effective. The distressing sore throat is often relieved by bits of ice held in the mouth; in other cases a gargle of a saturated solution of boracic acid in water hot as can be borne is especially palliative. When the throat trouble has reached a more advanced stage of inflammation, a three per cent solu-

tion of peroxide of hydrogen may be used to advantage.

Internally as a bactericide, corrosive sublimate may be given in 1-30 grain doses every four hours to a child five years of age.

In nephritic cases when suppression of urine is threatened profuse diaphoresis should be brought about by the use of the wet pack or hot air-bath.

Finally when the patient seems to be profoundly intoxicated with the infection, anti-toxin should be used precisely as in a case of diphtheria. Medical literature is full of favorable reports of this remedy used as suggested, and recently one of my patients was seemingly greatly benefitted by anti-toxin; the use of which, in my temporary absence, was suggested by two medical friends, Drs. Mandeville and Newcomb, both members of this Society.

Cases are also on record where in almost hopeless cases the happiest results have seemingly been brought about by injecting into the tissues defibrinated blood from a recently convalescent case of scarlet fever.

Owing to the especial liability to nephritis the urine should be frequently tested for albumin; furthermore, the amount of renal secretion should be constantly noted.

Putting the patient on a milk diet, adhering to this closely and encouraging the use of large quantities of drinking water are the best, surest and by all odds the pleasantest means at our command for the prevention of scarlatinal dropsy.

In conclusion permit me to say that after all there is no disease in which the old adage "an ounce of prevention is worth a pound of cure" applies with greater force, than in scarlet fever.

For in regard to all that pertains to childhood and its relations to this scourge, the one most important thing is to keep the young from having the disease.

Of the value of quarantine and disinfection the Michigan State Board of Health furnishes some most interesting and important information: During the eight years between 1877 and 1894 there were a total of 1150 scarlet fever outbreaks in that State and of these 738 were neglected, or in other

words ran their course without any attempt at restriction; while in the remaining 412 outbreaks isolation and disinfection were enforced. In the neglected outbreaks there were a total of 9650 cases, or an average of more than 13 cases per outbreak; and 420 deaths, or more than an average of one death for every two neglected outbreaks. In the 412 restricted outbreaks, there were a total of 1030 cases, or less than  $2\frac{1}{2}$  patients per outbreak; and 49 deaths, or an average of one decedent per eight outbreaks. In other words, to borrow a phrase from our political friends, "the open-door" to scarlet fever allowed six times as many persons to contract that disease, and permitted four times as many to die from it as would have occurred under restriction.

To put these facts in still another light: During the eight years between 1877 and 1894, had the 738 neglectful communities in our sister State of Michigan been as watchful and painstaking as their 412 more thoughtful neighbors, 7805 cases of scarlet fever would have been prevented, and 328 deaths from that remorseless scourge would have been obviated.

### THE DIAGNOSIS AND MEDICAL TREATMENT OF SYPHILIS WITH REPORT OF CASES.

BY E. S. ALLEN, M. D., ARCOLA.

At the May meeting of this Society in 1901, I read a paper on syphilis which produced a varied and peculiar discussion.

We are still looking forward with hopes ever bright to the day when some genius will solve the mystery of infallible syphilitic diagnosis. What a relief it will be when shown a skin, mucous, glandular, organic or bone lesion to say positively this is or is not syphilitic. The modes of syphilitic infection are three in number, sexual, accidental and hereditary. The hereditary infection may be propagated by the father, the mother, both parents or placental transmission. The medium is the blood or secretion from a sore of an actively syphilitic person. The primary lesion of syphilis is the chancre char-

acterized by a diffuse infiltration of the connective tissue with various cells, the Lustgarten bacilli and changes in the small arteries and veins. Associated with this initial lesion are changes in the lymph glands which become hyperplastic and finally indurated.

The secondary lesions are the superficial lesions of the skin and mucous membranes.

The tertiary lesions are the deeper and more profound lesions, consisting of circumscribed tumors, called gummata and an arteritis, which is not peculiar of this disease. These are the lesions which develop in the bones, periosteum, muscles, skin, brain, lungs, liver, kidneys, heart and adrenals. The primary stage begins within one month from the date of inoculation and extends from six to twelve weeks. The lesion of the primary stage may be a papule, a pustule, an ulcer or an erosion. It generally begins as a small, red papule which gradually enlarges breaks down in the centre leaving a small ulcer. The tissues about this become indurated hard and gristly (the hard chancre.)

The size of this lesion is variable, so small sometimes that when located in the urethra it is overlooked. The lymph glands in the region of the chancre enlarge and become hardened. Suppuration may occur in both glands and chancre.

The secondary stage begins from three to twelve weeks following the appearance of chancre and extends for a variable period. It is characterized by fever 99 to 105. There may be chills and night sweats. I have had one case which I took for malarial fever. The lesions which we call secondary are those of the skin and mucous membrane. The initial skin lesion in the majority of cases is a macular syphilide which occurs on the trunk, arms and legs, the face is often exempt. The initial eruption may be papular, pustular or squamous. The milder the eruption the less severe the disease i. e., a macular patient will as a general rule do better than a pustular patient. With the fever and the roseolous rash the mouth and throat become sore.

There is hyperemia of the pharynx swollen



tonsils, often with small kidney shaped ulcers thereon.

There can be no hard and fast lines drawn between the lesions of the secondary and tertiary stages of syphilis. In fact some of the lesions which generally appear late are the first to appear coming on before the primary sore has properly healed.

The special affections of this stage are certain skin eruptions gummatous growths in the viscera and amyloid degenerations. The skin lesions of this stage show a greater tendency to break down ulcerate and destroy the deeper layers of the skin and in healing leave scars.

Hereditary syphilis does not vary from the acquired form in any particular except it lacks the initial lesion.

The severity of the disease determines the type of efflorescence and is also influenced by the time when the foetus was infected.

The later the infection the milder the form of efflorescence which first appears. Hence an infection taking place early in gestation will be borne dead or show an advanced stage of the disease, represented by the more intractable forms of the efflorescence and severe general symptoms.

The eruption may be on the child at birth or come in three to six weeks. This eruption may be macules, papules, pustules, or bullae. Occlusion of the nares comes on at birth or within two or three weeks.

All of these types have been cured.

Syphilitic pemphigus usually causes the death of the child, no matter what the treatment.

In a former paper read before this Society I held that chancre in some cases could not be diagnosed. I still adhere to that opinion.

The only means by which you may be sure is confrontation. In finding the suspected party in the case actively syphilitic. If this cannot be done it is well to remember these points. A chancre is at first, generally a small, red papule which later breaks down in the center forming an ulcer. In time the base of this ulcer becomes infiltrated, hard and gristly, forming the so called hard chancre.

Also in time the glands in the region of the chancre become infiltrated and hardened. The chancre generally appears in from three to twelve weeks after exposure. The diagnosis of chancre will be considered, by time of appearance after exposure, first appearing as papule, afterward ulcerating and becoming infiltrated, and where possible confronting the suspected party.

Your further diagnosis will be by eliminating chancroid and herpes. The chancroid begins as a pustule or an ulcer. Develops within three days after exposure. It generally occurs in the poorer classes who are uncleanly, and hence do not use good judgment in securing the partners for their indulgencies.

The chancroid is generally multiple and affects opposing surfaces, while the chancre is generally a single sore.

The chancroid is autoinoculable. While the chancre is not, unless it contains a mixed infection. The secretions of a chancre are scanty and serous. While the chancroid has a profuse purulent secretion.

The chancre is rarely painful. The chancroid is generally quite painful.

Herpes is caused by mechanical or chemical irritation or neuroses and begins as a group of vesicles, painful, itching, and tends to coalesce. The secretion is moderate. Squeezing it a drop of watery fluid exudes. Wipe this away, squeeze, and another drop exudes.

This can generally be repeated several times. Herpes is readily, and rapidly curable, while chancre is slowly curable.

In the well to do, and cleanly, you should be very suspicious of a single lesion on the genitals, whether it appears as a papule, erosion, pustule, or ulcer.

The diagnosis of secondary, or tertiary syphilis may present still more difficulties. If the case be a man, you can go into the history without hesitancy. They will sometimes deny specific taint, knowingly or unknowingly, in proof of which I submit the following case: On May 11, 1904, Mr. J. L. presented himself at my office, for treatment of a very bad skin disease. I show you his photograph herewith. He was thirty-seven

years old, single, engineer, family history good, pulse 96, temperature normal. Had typhoid fever in 1879, malaria spring 1903. Severe case of gonorrhoea in 1894, lasting six months. Had it again, but not so bad in 1898. No history of chancre, and denies syphilitic infection. Several kidney shaped ulcers on his tonsils, nasal septum eaten through, large pustulo squamous syphilitic skin lesion on right leg, which began as a small papule, and spread extensively.

Three years ago, a small papule appeared on forehead, over right eye, spread over the forehead, involving portions of the right cheek and eye, and his left eye. The right eye is ulcerated badly, the lids eaten considerably, patches on forehead, and lid of right eye covered with thick crusts from which pus is being discharged. Along the margin of the skin affection of the leg I found a pustulo crustaceous syphilide.

The area of skin over which diseased process had passed, was a dark ham color. Of itself almost diagnostic. There was some glandular enlargement. Under treatment of K. I. and elixir calisaya I. Q. S. and hot fomentations, recovery is rapidly proceeding. Fourteen days after treatment was begun, he was able to be on the street, with the bandages removed from his face.

On October 10, 1902, Mr. J. C. sent for me in the night. I found him suffering a severe pain from hip to heel. On posterior surface of right leg in the line of the great sciatic nerve. On deep pressure the nerve did not seem to be tender as is generally the case in sciatica. I however, could attribute his trouble to no other cause. A hypodermic of morphia gave him some rest. The next day he was about feeling fairly well with less pain than usual with sciatica. He said his leg bothered him more when quiet than when stirring about. This sort of thing continued for about a week. He would work during the day, and suffer intense pain till two or three o'clock in the morning. Finally I woke up to the fact that his trouble might be specific. On questioning him, he gave a syphilitic history. A course of iodides removed his sciatica.

Mr. H. K., married, aged 29, engineer.

Family history good, excepting a sister and uncle had died with cancer. He had had no severe sickness. Had gonorrhoea several times. In June, 1892, had a sore on his penis, followed by syphilis. Went to Hot Springs for four weeks, took about 25 bottles of "Three S." In 1895 went to Hot Springs for six weeks returned apparently cured. In 1901, he called on me with mucous patches in his mouth. I gave him a mixture of potassium iodide and mercury. The sores healed. He stopped treatment and the sores reappeared. He then went to the Springs for one month, but after taking a few baths, came down with malarial fever and went home feeling worse than when he left.

In June, 1903, he noticed that his testicles were hard and somewhat enlarged. About Nov. 15, 1903, a sore came on his right testicle, which grew rapidly. He treated this trouble with a physician who evidently thought it a case of tuberculosis, as he put him on creosote.

On December 1, he came under my care. His condition then was as you see it in the photograph. There was a large sarcocele of right testicle. While the left testicle, was about twice its natural size. He was anaemic, and run down, and had syphilitic rheumatism of the right leg and foot, which was very painful. The treatment was, ten drops of the saturated solution of K. I., one hour after meals well diluted in water, increasing the dose one drop each day. Before meals he took two drams of the elixir of Cal. I. Q. and S., with a hot bath each morning, lasting for 30 minutes, and hot fomentations applied to the testicles for one hour each night. He progressed rapidly toward cure and in five weeks went to his work, his organs being nearly well as shown by the second photograph.

In December, 1902, Mrs. K., a young woman, married, 29 years of age, called on me to relieve her from an attack of asthma which had been bothering her for several months. The disease had progressed to such an extent that it was impossible for her to rest at night. On examining her lungs I failed to find the rales of asthma although

she had had a very bad night. Examination of her throat revealed hyperaemia of the pharynx and larynx. I was satisfied that my patient did not have asthma and was unable to account for the profound impression seemingly caused by the slight inflammation of the throat.

One day, about a week after she had come under my care, she showed me a number of small blotches on inside of her right arm, just above the wrist, which she said had annoyed her for about one year. On questioning her, she said that it was not painful, and hurt her no way except the looks. There was several papules about the size of a pea, which were dark ham colored. These, her doctor had called eczema, but could not cure them. The eruption had none of the characteristics of an eczema. I had seen this peculiar lesion in specific cases, and concluded at once that my patient was syphilitic. I put her on increasing doses of K. I. In three weeks her "eczema" had disappeared, and her asthma had been cured.

The diagnosis of syphilis will be made first by history of the case, which is often misleading, second by careful physical examination. This should involve the lymphatics for enlarged glands, the skin for eruption, or scars. These skin scars for several months after healing will be ham colored, finally becoming white. Look for the peculiar syphilitic eruption on the wrists and palm of the hands. The palmar eruption is generally squamous. Examine the genitals of the male for scars following chancre. Examine the throat and pharynx for hyperaemia, and enlarged and ulcerated tonsils. The mouth for mucous patches, the nose for the eaten septum, the tibia for its scabbard shape, and the leg below the knee for scars following ulcers. In women the history should include miscarriages, still births, and children who have died soon after birth. The headaches of syphilis are quite severe, and much worse at night. The margin of the lips where the mucous membrane and skin unite is thickened in syphilis.

Be guarded in your diagnosis of enlarged glands and tumors, till you are sure they are not specific. No less a surgeon than Dr.

Owen, of Chicago, removed a chain of glands from a young woman's neck, supposing them to be tubercular.

The enlargement returned. She was again returned to him for operation. While she was being prepared for the operating table, a young physician was called in consultation. The young man made a discovery. The operation was postponed, the lady was told that she was too weak to undergo it, and was sent home. This was a case of syphilis.

Dr. Bevan once told me that he was called by Dr. Hyde to operate on a case of rectal carcinoma. He objected to operating till the case had had a thorough course of iodides. The treatment by iodides removed the lesion, thus proving it to have been specific. When called to see a baby in convulsions, or with paralysis, who has a history of wakeful and restless nights, with normal or nearly normal temperature, be careful of your diagnosis. Such cases have been diagnosed as tubercular meningitis, which afterward have proved to be syphilitic.

The prognosis of syphilis is good according to the severity of the case, the control you have over your patient, and the treatment instituted.

*Treatment.* The prophylactic treatment is by converting the vast army of harlots into peaceful and loving housewives. I have no solution of this problem to offer. The next remedy is the education of the ignorant into the causes and results of this vile disease. Especially, should boys receive a proper degree of education in this line. I believe that this should be done in the common schools of our country. I further believe that it should be done by the medical profession. But instead of our doing this, which should be our duty to mankind, we allow what little education they get to be given them by "quacks," charlatans, patent medicine venders and personal experience.

A syphilitic man or woman should not marry till time and treatment have cured them. The pregnant syphilitic woman should have rigid anti-syphilitic treatment during her pregnancy.

The syphilitic baby if taken early and submitted to rigid treatment, can be absolutely



cured. The medicinal treatment is essentially with mercury and iodides. With these, tonics and heat as accessories.

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### SOME COMPLICATIONS OF PREGNANCY—PARTURITION AND THE PUERPERIUM.

BY E. L. LARKINS, TERRE HAUTE, IND.

While pregnancy is a physiological condition and its progress and termination in the very great majority of cases satisfactory, yet in a small per cent pathological processes supervene causing much suffering on the part of the mother or interrupting gestation, and in a few cases are the direct cause of death of both mother and child.

To some of the latter conditions I desire to call your attention believing the subject worthy the earnest consideration of every practicing physician, for it is under his care that practically all cases sooner or later come.

The normal attachment of the impregnated ovum is to the inner side of the upper segment of the uterus but occasionally it becomes adherent to the ovary or somewhere in the fallopian tube; or it may drop into the abdominal cavity and fasten itself to some of the structures contained therein, develop, and almost without exception prove serious or disastrous to the mother.

The question of ovarian pregnancy has been and is now strenuously denied by many authorities but a few and among them Leopold and Martin, have recorded positive evidence of its occurrence.

Primary abdominal pregnancy is still more rare than ovarian and both strictly speaking without practical issue.

By the term extra-uterine is understood all cases of pregnancy occurring outside the uterus. This accident or anomaly of pregnancy is of very serious import to the mother and practically all children die.

The danger to the mother is from hemor-

rhage due to rupture of the tube and separation of the placenta.

The point of attachment of the placenta in the tube is of great moment to the mother. When implantation takes place on the upper surface of the tube and rupture occurs the haemorrhage is so violent that life is soon destroyed as there are no structures to exert pressure on the bleeding vessels.

When the attachment of the placenta is on the floor of the tube and rupture occurs pressure is exerted against the floor of the pelvis and the woman escapes present danger. Rupture takes place between the second and fourteenth week. It occurs earlier when the placenta is attached to the upper surface of the tube. When the placenta is attached to the floor of the tube rupture may occur through the upper surface and the fetus be extruded into the abdominal cavity and go on to full time.

The diagnosis of extra uterine pregnancy is by no means easy. When a married woman in the child-bearing period complains of serious derangement of her menses without assignable cause, has pain on either side of the uterus associated with amenorrhea or metrostaxis with expulsion of small bits of deciduae her case should be thoroughly investigated and if undecided, closely watched until a correct diagnosis is made. In some all the usual symptoms of a normal pregnancy may be present and in others nothing will occur to cause the woman to believe she is pregnant until rupture takes place.

Pain as a symptom is variable as to its presence and diverse in character and in some only amounts to that ill-defined sense of uneasiness often complained of by women normally pregnant.

Vaginal examination shows a purplish hue of the mucous membrane, soft cervix and slightly enlarged uterus.

The Fallopian tube of the affected side will be enlarged and lying slightly posterior to the uterus.

The diagnosis made, no time should be lost in its removal as every hour subjects the woman to the very grave dangers of rupture.

Appendicitis, strangulated fibroids or those interfering with the normal develop-

ment of pregnancy should be subjected to the same surgical treatment as in the non-pregnant woman.

Cancer of the uterus demands hysterectomy without reference to the stage of pregnancy.

#### ECLAMPSIA.

There is but one other complication of pregnancy comparable to eclampsia and that is haemorrhage. Both are sudden and often fatal. The majority of cases of eclampsia occur before or during labor and practically all cases of haemorrhage after. Nothing so terrorizes a household and spreads so rapidly in the neighborhood as the report that a woman in labor is having "spasms."

Eclampsia may occur as early as the fourth month of pregnancy or as late as two weeks after delivery.

For convenience of study eclampsia may be classified according to the period of occurrence into that of pregnancy, labor, and the lying-in state. It is characterized by convulsions of the entire body and loss of consciousness, followed by coma of greater or less duration. Owing to its frequency, the disagreement of authors as to its etiology, the diversity of opinions respecting its management and obstetrical treatment, the subject demands the earnest consideration of every physician.

If counsel can be quickly secured it should be immediately summoned in order that the responsibility may be divided and material assistance rendered if such be necessary.

In reference to its frequency statistics vary greatly but in the experience of the writer eclampsia occurs in about one in 150 of all cases of pregnancy. At the present time I think the per cent of cases would be greater were it not for the fact of more careful supervision of the patient and the induction of abortion or premature labor as a preventive measure.

As it is well known convulsions occur more frequently in primipara, the proportion being about 80% of all cases or even greater. The mortality is from 25% to 50% owing greatly to the period of occurrence. The highest death-rate occurs in cases coming on

during labor. This statement may seem to be invalidated by some statistics which apparently give the initial convulsion during pregnancy but fail to state the length of time before labor is declared.

As every practitioner of experience knows premonitory labor in primipara usually begins from four to six days before actual labor commences. It is in this period that the large majority of cases of eclampsia classified as developing during pregnancy occur, when in fact they should belong to the first stage of labor.

Pregnancy is a natural and normal process and when the physiological conditions are maintained all goes well, but when we consider the many changes which take place in the whole economy of both mother and child we realize that the organism of the former is placed at a disadvantage in maintaining its physiological equilibrium. Deficient elimination by over-taxing the excretory organs produces an auto-intoxication. The principal toxic element appears to be an acetone producing an acetonuria manifested by epigastric distress, headache, disordered vision, and dysuria with in the majority of cases, more or less albuminuria.

Formerly it was thought that all cases of eclampsia in the pregnant woman were preceded by albuminuria and that all women having albumen in the urine were very liable to convulsions but this has been proven fallacious. It appears that the albuminuria is due to the irritation and sub-acute inflammation of the tubules of the kidney in an effort at elimination of the toxic elements circulating in the blood.

Acetone and aceto-acetic acid are decomposition products of albumins.

Acetonuria may result from an excessive use of animal foods. This state may give rise to restlessness, excitement, insomnia, and even delirium. These are increased by the use of alcohol. It is conceded by all authorities that the use of alcohol in any form and a rich nitrogenous diet should be strictly avoided by pregnant women, as both render them more liable to eclampsia. In this appears a reasonable explanation of the good efforts of a bland non-stimulating diet.

That the digestive tract is primarily responsible for eclamptic seizures appears to be accepted by skilled clinicians.

Thorough disinfection of and drainage of the system through this channel is the preventive measure recommended, and is the accepted treatment when the convulsions have occurred.

Not only acetone but other toxins and aceto-acetic acid are formed in the disordered digestive tract which being absorbed and distributed through the system by the circulation interferes with tissue metabolism which in turn throws imperfect retrograde products into the blood, the excretory organs are obtunded, retention in the system occurs producing in the over-burdened and susceptible eclampsia.

In this way a vicious circle is established. In this circle the role of the liver is an important one. Nearly all the products absorbed from the digestive tract as well as the blood from the spleen pass through the liver. Failure of this organ to perform its functions in the metabolic process results in more or less systematic toxemia. Evidence of the disturbed function of the liver in pregnancy is afforded by the slightly jaundiced or tawny hue of the skin and sclerotic coat of the eyes in the early stages and lately Sir Johnathan Hutchinson has shown that the brownish patches on the face are due to a deposit of fatty matter derived from the liver thus confirming the observation of the laity as to the origin of "liver spots" in pregnancy.

Post-mortem, in women dead from eclampsia we find much the same condition of the liver as occurs in the kidneys—from a slight fatty infiltration to acute yellow atrophy and complete disorganization.

Those who have sought to establish the bacterial origin of the cause or causes of eclampsia have so far failed in their task and at present there seems no reason to believe that their efforts will be any more successful in the future.

The part played by the thyroid gland in the production of eclampsia has recently been prominently brought forward by the study,

observation, and experiments of Lange. Physiological enlargement of the thyroid occurs at the fifth month in primipara and at the sixth month in multipara. The function of the thyroid is in the same way connected with uterine and foetal metabolism. In twenty out of twenty-five cases of pregnant women observed by Lange in whom physiological enlargement of the gland did not occur albuminuria and convulsions developed.

This causative view of eclampsia is taken by Herrgott who likens the condition to myxoedema. If this theory is substantiated the rational administration of thyroid extract would be a physiological prophylaxis.

The role played in the development of eclampsia by constipation is an important one inasmuch as it is directly concerned with the development of toxins which are absorbed, carried directly to the liver, and pass into the general circulation.

In this respect there is considerable resemblance to the intestinal factors preceding and complicating epileptic seizures. It is sometimes surprising how much putrid faecal material the bowels contain, and especially the colon although the woman may have apparent normal evacuation daily.

The condition of the kidneys during pregnancy was formerly held to be the key to our knowledge of the cause of eclampsia as expressed by albuminous urine, but the changes incident to the elimination of albumen is now known to be but one expression of a general toxemia.

The condition of the kidneys of pregnancy is not one produced by inflammatory changes but in which is present a fatty infiltration of the epithelial cells lining the uriniferous tubules.

Chronic nephritis complicates pregnancy in a few cases and acute nephritis may be initiated at this time. The condition of the kidney of pregnancy returns to the normal soon after delivery but that of nephritis either acute or chronic pursue the usual course of the disease.

The changes in the kidney of pregnancy are due to the circulation in the blood of imperfectly oxidized metabolic products and the efforts of the kidneys to eliminate them.



Albumen does not appear in the urine until the kidney is so overloaded and damaged, and its function is so impaired that insufficiency ensues.

Normally the urine of pregnancy is increased in amount and its specific gravity is lower.

Albumen in the urine is an indication of an irritated kidney and one in which its function is becoming impaired, and associated with tube casts and diminished secretion of urine assumes a condition of grave importance in the pregnant women. The time of the appearance of albumen in the urine is of clinical importance, and it has been shown to be present in one-third of all cases during labor.

The character of tube casts associated with albumen is of importance from a prognostic point of view. Hyaline casts are found in practically all cases during the last half of pregnancy and are probably due to the increased abdominal pressure interfering with the renal circulation, and are without significance; but albumen associated with fatty, granular or waxy casts and diminished secretion of urine is of very grave importance. In examining the urine for albumen it is well as Polak has pointed out to use that drawn by the catheter as many women have leucorrhea and this discharge mixing with the urine as it is voided will mislead the physician.

As indicative of the systemic condition of the pregnant woman the amount of urine passed and the per cent of urea it contains are probably the most important guides. A healthy woman in a normal pregnancy should excrete about 60 oz. of urine in 24 hours, containing from  $1\frac{1}{4}$  to  $2\frac{1}{2}\%$  of urea. When the amount of urea falls to or below  $1\frac{1}{2}\%$  it behooves the physician to be on his guard and institute prompt measures to increase elimination.

In some fatal cases parenchymatous degeneration with thrombi and necrotic areas are found in the liver, lungs and kidneys.

These are attributed to a fibrin forming ferment in the blood from a retrogressive metamorphosis of the albuminates.

The condition of the mother causing albuminuria is often serious to both herself and child other than the danger of eclampsia as it renders her liable to haemorrhages, oedema of the lungs and acute anaemia, and is often fatal to the child through placental haemorrhage. The same lesions are found in the child as in the mother and it frequently has the same eclamptic seizures soon after birth. When the child dies in utero, albuminuria in the mother ceases as it does soon after delivery.

The kidney of the child before birth practically excretes no urine and the products of its metabolism circulates in the blood of the mother and child, and after birth the effort of the kidneys of the latter to eliminate the retained toxins produce the characteristic lesions of these organs.

The part played by metabolism in the child producing toxins which circulating in the blood of the mother, and causing in her the characteristic lesions and resulting eclamptic seizures is a phase of the subject which is receiving great attention by all observers. Much clinical and practical evidence can be adduced in support of this view.

Practically all cases of eclampsia occur from the fifth to the ninth month and the greater majority in the last two months. This is the time when foetal metabolism is greatest. Then 80 to 90 per cent occur in primipara, and over 20% of the remainder in plural pregnancies.

Primipara have not the immunity conferred by a former pregnancy to the toxins, and in plural pregnancies a much greater amount of the foetal toxins are thrown into the maternal circulation.

With the death or delivery of the child the symptoms in the mother subside if her blood and excretory organs have not been damaged beyond repair.

In eclampsia in multipara the failure of immunity only proves an exception to a general law exemplified in most infectious diseases.

#### POSTPARTUM HAEMORRHAGE.

Postpartum haemorrhage may be said to be the most alarming accident of parturi-

tion, coming on as it does without warning during or just after the completion of the third stage of labor the physician is confronted with an emergency second to none in medicine or surgery. Prompt action guided by a clear head can only avert a tragedy of nature.

I think postpartum haemorrhage should be restricted to bleeding from atony of the uterus from any cause. Some would include that coming from traumatic lacerations of the parturient canal but this should only be regarded as an incident as any other traumatic haemorrhage might be.

Any condition preventing uterine contraction or compression of the vessels in the placental area disposes to postpartum haemorrhage. Among the more common causes may be mentioned rapidly succeeding pregnancies, want of exercise, metritis, or endometritis, twins, the presence of a tumor in the uterus, albuminuria and extreme mental depression.

It is claimed by many that the administration of chloroform disposes to haemorrhage and I am inclined to this view.

In some cases we may be led to suspect haemorrhage after delivery by the sharp short pains, a pulse of low tension keeping rapid toward the end of delivery, and an indescribable restlessness on the part of the patient. In this particular I think experience and observation count for good in the practice of the obstetric art. The more one has to do in this line of work, the more accurately can he judge of its probable occurrence and hence institute measures to prevent it and herein lies its most effective treatment.

Two measures should be adopted in every case of labor—proper management of the third stage and never to deliver in the absence of pains.

In a suspected case early rupture of the membranes is an important prophylactic measure, as it relieves distension of the uterus considerably and increases its contractile power. It also relieves to some extent intra-abdominal pressure and in this way lessens

irritation and shock and liability to paralysis of the abdominal sympathetic nervous system.

## OBSTETRICS IN COUNTRY PRACTICE.

BY GEO. E. LYON, M. D., TOLEDO.

Mr. President, and members of the Aesculapian Society. Obstetrics is the branch of medical practice that appeals most strongly to the country practitioner, as it is in his obstetrical work that he either makes or mars himself in a community. It calls for the treatment and directing of the expectant mother from the time of conception until she has passed the puerperal stage.

My idea is not to advance new theories in the treatment of the mother or the management of labor, but to give a general summary of obstetrical practice with the hope that I may encourage a more general use of the aseptic treatment of the mother in this the critical period of her life when she brings forth a new born babe.

In my first experience in obstetrical practice, as a student under Drs. Earl and Yarrow, amid the filth and dirt throughout the slum district of Chicago, not a case of sepsis developed. This result led me to the belief that these perfect ends were due entirely to the fact that soap, water and bichloride were used in abundance.

Our first care is to the expectant mother. The urine should be examined monthly from the third to the seventh month, and then every two weeks until gestation terminates, in this way watching the kidney action, and combating any tendency to a dropsical condition.

The general health should be looked after, and the digestive tract kept in as good condition as possible. For two weeks prior to confinement, the breasts should be systematically massaged, and bathed with 95% alcohol and tannic acid, night and morning in this way toughening the nipples, and preventing caking of the breasts.

The expectant mother should be advised to avoid crowded or over heated buildings, riding over rough roads, and all forms of excitement.

In a large percent of country obstetrical practice, the doctor is not informed of the coming event until the horse, lathered white, stops at his door, or the telephone calls. So we must be always ready for this class of patients who are less fortunate, but no less deserving of our care.

A large well appointed obstetrical bag should be kept continually in readiness and supplied with one or two pairs of forceps, one pair placenta forceps, two pairs of artery clamps, and one salt infusion set. One Kellog applicator, with a supply of elastic funis rings, is very useful. With these and a pocket case, containing scissors, needles, and suture material, you are then ready for any emergency, and will not be obliged to leave your patient to go after instruments left in the office. A Kelly pad, a fountain syringe and a good stiff nail brush are indispensable, and a chloroform inhaler is very convenient.

As to drugs; 4 oz. alcohol, 4 oz. chloroform, 2 oz. of a good grade of ergot, 2 oz. of carbolic acid solution, and a small can of vaseline in well corked bottles, should be carried in every case.

To overcome the possibility of infection from bedding or clothing, a well wrapped packet containing two large linen towels, a package of cheese cloth sponges, and if desired a surgical gown, sterilized thoroughly, and kept always ready. The gown is neat, clean, and at once pleasing to the patient, and keeps your clothing from being soiled. I keep packages like the above made up and sterilized at all times, and have felt much safer with my cases when using them.

In preparing for delivery, it is best to roll the sleeves up above the elbows, scrub the hands and arms thoroughly with soap and hot water, clean the nails, rinse out the pan well, and prepare bichloride solution, one to two thousands, and wash in it for five minutes, then the examination may be made. If time permits, the vulva and thighs should

be thoroughly sponged off with the bichloride solution, the fingers should not be allowed to come in contact with any of the clothing or bedding before the examination is made. Make the examination as rapidly and thoroughly as possible and ascertain all the information desired with one examination, as frequent examinations are distasteful to the patient, and may introduce infection. After the examination is made, the patient should be encouraged with kind words, and directed how to use her pains to the best advantage.

When dilation is complete, she should be gotten on her back with a Kelly pad covered with one of the sterilized towels well under the buttocks and the other towel across the hips, in this way preventing the exposure which we find the average woman dislikes so much, and allow digital examination without the hands coming in contact with the bedding; and if the fingers are well trained and an accurate knowledge of the anatomy of the parts is kept in mind, no exposure is necessary unless forceps are used.

As soon as the pains get severe, allow the patient to inhale a few drops of chloroform from an inhaler or handkerchief, and keep it up in gradually increasing doses until the head is born. It dulls the pain and encourages her to work harder, as well as making the pains more regular.

If the perineum becomes tense and thin, apply pads wrung out of hot bichloride solution, and retard and elevate the presenting head. This may be done by placing the index finger in the rectum or by pressure upward on the head through the lips of the vagina. It is always best to allow the bag of waters to remain intact as long as possible as it assists complete dilation of the cervix and makes the second stage much shorter.

After the head is born the child's mouth should be wiped out and the finger run around the neck to clear the cord, if it should be impinged. Then the head should be lifted well forward and the shoulders delivered between pains, in this way avoiding the tearing that so often occurs at this stage.



The body and limbs slip out easily after the shoulders and the second stage is complete. The respirations should be started if they haven't already begun, and the cord severed, between clamps or ligatures, as desired, as soon as the pulsations cease and the babe wrapped in a blanket or shawl.

The placenta may be easily expressed by Crede's method, and the fundus massaged until it becomes hard. Traction on the cord should never be made as it is apt to pull the placenta down broad side against the cervix and thus make expulsion much harder. As soon as the placenta is expelled, a teaspoonful of a good grade of Ergot should be given.

The bed and mother should then be cleaned up and a sterilized absorbent cotton pad put to the vulva, a good well fitting binder applied around the mother, and a large pad pressed under it, well down against the fundus. Then cover her with plenty of bedding, put something hot to her feet, and direct her to remain quiet on her back.

The babe should be greased with oil or vaseline, rubbed dry, and the cord dressed, tied with a rubber band or ligature as desired, sponged off with alcohol, and covered with borated talcum and a sterilized gauze sponge, all to be held in place with a well fitting bandage. The eyes should then be washed out with a saturated solution of boracic acid, and in all cases where there is a suspicion of venereal disease, a few drops in each eye of a 2% solution of nitrate of silver will eliminate the possibility of ophthalmia neonatorum.

To develop the sucking reflex and keep the babe quiet, it should be put to the breasts every two hours, beginning as soon as the mother has rested. This also facilitates the early, plentiful flow of milk. A little sweetened water given every two or three hours will aid the action of the kidneys and satisfy the infant until the milk comes.

A visit should be made within twenty-four hours and a careful examination of both patients made; the condition of the fundus ascertained, the bowel, and kidney action looked after, and minute directions as

to the care of the baby given. The mother's binder should be rearranged well over the fundus uteri and the amount and character of the flow noted, as well as the amount of urine passed, and a mild laxative given.

The things I would have you keep in mind are these:

Be surgically clean.

Go equipped for all emergencies.

Make the patient as comfortable as possible.

Be kind and considerate of the patient's feelings; and don't get in a hurry unless there is great hemorrhage or danger of fetal strangulation.

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## CHRONIC PNEUMONIA.

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BY N. C. IKNAYAN, CHARLESTON.

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During the last decade 20-30% of all cases of pneumonia terminated fatally. The total death rate has risen from 12 1-3 for each 10,000 during the decade previous to last, to 18 for each 10,000 during the last. Beyond doubt the record of the present decade will show substantial increase over the last.

Sanitary improvements have put an effective stop to the ravages of plagues, tamed many diseases. Progress in medicine, pathology and bacteriology has made possible for us to rationally understand many diseases and prevent or effectively treat them. Pneumonia seems to be one of the exceptions. It is respecor of no climes or conditions. It seems to thrive on agencies that are effective checks on other diseases. Either we are passing through a high tide of virulency in pneumonia or our knowledge of the disease is superficial and incorrect and our methods are based on fallacies. It is clear that there are new avenues to be explored and newer methods to be tested.

The aim of this paper is not to discuss the permanent tissue change, fibrous degeneration, contraction and eventual obliteration of alveoli or dilatation of bronchioles, resulting in bronchiectesis and lung abscess, and

other changes described in books on the subject. They are interesting pathological conditions, yet the study of these morbid processes though pushed to their legitimate limit, have yielded no practical outcome. We must take a broader view of the subject in order to arrive at conclusions that might at least be suggestive of probable effective measures in prevention and cure of this dread disease.

What is pneumonia? It is an inflammation if you define inflammation as reaction of tissues to morbid stimulation.

It has been definitely demonstrated that both lobar and lobular pneumonias are caused by certain germs.

A brief sketch of the life history of these bacteria in their relation to pneumonia may throw some light in the direction our quest should be guided.

Diplococcus of Frankel, or micrococcus lanceolatus is considered to be the cause of the great majority of cases of pneumonia. This organism multiplies best in blood serum at the body temperature, but it may exist at as low a temperature as 65° F. It thrives in human saliva meanwhile losing its virulence which promptly returns if medium is changed to pneumonic sputum or blood serum.

Under ordinary conditions it soon loses its virulence and shortly after dies, although it has been demonstrated to survive four months in dried sputum and blood. It is generally conceded that its life outside of human body is precarious but once lodged in human air passages it may outlive its host.

*Streptococcus pyogenes* is believed to be the cause of some cases of pneumonia. Typical streptococcus pneumonia is lobular. It is cellular and often not fibrinous. Some firmly believe lobar pneumonia can be caused by this organism, others account for it on the theory that great infiltration accompanying a case of streptococcic pneumonia will make it appear as lobar. In subacute and chronic stages it resembles pulmonary tuberculosis. In a case of streptococcic pneu-

monia the disease is apt to terminate gradually with occasional exacerbations, delayed resolution, frequent, quick and soft compressible pulse, irregular temperature simulating a case of pulmonary tuberculosis, complicated by pneumonia which abating leaves the original tubercular process to run its usual course.

*Streptococcus pyogenes* has been known to survive in dried pus from 14 to 36 days. In ordinary surroundings, it loses virulence and dies in a short time. In human body, especially in the air passages it endures indefinitely. The media and temperature is favorable to its propagation, only defensive agencies of human system in health, acting as check on it.

Third important factor in production of pneumonia is influenza bacillus. This is a factor not to be despised or dismissed lightly. May not the great prevalence of la grippe have a leading part in increasing the fatality from pneumonia. La grippe should be regarded as a serious disease leading into more serious ones. This vampire sucks the nervous vitality, reduces the resistance to disease, sets up a catarrhal inflammation in the upper air passages and bronchi and help break down the defenses of bronchioles and alveoli. More than that, this breaker of defenses is also capable of setting up pneumonic inflammation, a cellular lobar pneumonia. This statement is made upon the authority of Pfeifer, Chiari, Neisser, Meunier and others. These same writers are also of the opinion that most of the influenza pneumonias are caused by streptococci.

Influenza bacillus forms no spores, is very difficult of cultivation outside of human body, drying and unfavorable media, for instance water, destroys it in a short time. The conclusion that for the yearly abundant harvest of influenza cases human race is indebted to itself, seems to be justifiable. Influenza bacilli could not survive the outside influences from one winter to another.

Freidlanders pneumobacillus is considered to be the causal factor in a small percentage of pneumonias 3-5%. However the tendency to consider its presence accidental is gaining ground.

Diphtheria bacillus, bacillus typhosis and staphylococcus have caused pneumonia. This happens only rarely and its real nature not undisputed.

From the foregoing brief sketch, the following deductions are more or less justifiable.

(1) All these bacteria are adversely influenced by sunlight, water and drying. Some retain vitality some length of time, but only in most favorable media, for example, blood and pus.

(2) These organisms live and thrive in human air passages. Some bacteriologists assert that pneumococcus is present in the mouth and nasal cavity of all healthy persons. Netter found it to be virulent for animals in about 20% of healthy human beings.

(3) Great majority of acute pneumonias are auto infections, in the sense that the patient harbored the cause of the disease within himself for an indefinite time, maybe for years. In many cases it manifested no symptoms, in others there were catarrhal symptoms, bronchitis and some expectoration. These signs of activity gave warning of the stealthy advance of the enemy. Activity of ciliated epithelia which sweep out all foreign substances is gradually lessened by inflammatory reaction caused by their presence or conditions favoring their development. Some day, an exposure, a digestive disturbance, exhaustion from overwork, any disease that has acted as drain on bodily vitality weaken the defenses and infection of alveoli follows, which manifests the group of symptoms, that are considered evidences of acute pneumonia.

Direct inhalation and metastatic pneumonias occur but rarely. All cases of bronchitis, all catarrhal conditions of air passages, chronic cough with expectoration which are due to presence of pneumococci, streptococci, and influenza bacilli must be regarded as chronic pneumonias. These cases are many, and our experience teaches us to suspect them as forerunners of acute pneumonia.

When we call a disease chronic it may mean that it has followed an acute attack, or it has preceded one or there has been no history of acute attack.

As illustrative of some of the points made above I will cite brief histories of two cases.

S. F. Age 24, consulted me latter part of last September on a cough he has had for last 10 years or longer. This had been greatly aggravated. He wanted to know if he had tuberculosis. My answer was, no. This satisfied him and he returned to his work. His cough steadily grew worse, he abandoned his work with the intention of trying the beneficial effects of Arizona climate. He was expectorating profusely, sputum greenish and thick. Bronchial breathing marked at the apices tympanitic resonance on upper lobes, cog wheel respiration audible in several spots. He lacked the quick and compressible pulse of tuberculosis or rather mixed infection. Temperature normal.

A microscopical examination cleared the case. Sputum contained pneumococcus of Frankel in great numbers and almost to the exclusion of other microorganisms. Diagnosis chronic pneumonia. Treatment, cod liver oil, tonics, and creosote carbonate. A second and third microscopical examination confirmed the first. Patient could not expectorate enough for another microscopical examination after the fifth week. At the end of three months lungs were normal and patient had gained several pounds. There has been no return of symptoms since.

Miss B. M., 20 years old. Was taken with a severe chill on Jan. 3, 1904, followed with high fever and intense pleuritic pain in her left side. It developed into a case of lobar pneumonia, expectoration was abundant and blood tinged for several days but it was not fibrinous. The temperature did not have the regularity of pneumococcus pneumonia. The physical symptoms in general were those of lobar pneumonia. At 2 a. m. on the fourth day, patient had another chill and day after at about the same time still another. The third chill was followed by a temperature of 107° F., which was reduced to 103 3-5° F.



by a cold water bath. From this time on temperature declined with only occasional exacerbations until on the 10th day it reached 99° F. Pulse 120, respiration 48, expectoration profuse and mucopurulent. On the 14th day the temperature began to go up, expectoration increased, severe paroxysms of cough entirely exhausted her, pulse went over 130 in recumbent position, she was greatly reduced in flesh and strength. Symptoms showed no sign of abating until the end of the fifth week of her sickness. At this time on inspection it was plain that upper part of chest on left side was sunken, percussion note high pitched, marked bronchial breathing, expectoration profuse, pulse about 120, respiration 37, temperature about 101° F. Improvement was slow but steady. Present condition: temperature normal, pulse 77, no cough, no expectoration, resolution has progressed so far as to allow normal expansion of lungs and thereby obliterate the depression on left apex. Patient has regained her usual weight and strength. The respiratory murmur is still somewhat harsh and louder than normal. The manner in which this case has progressed promises complete return to normal state within next few months.

She gave a history of cough and expectoration extending over three to four years. The case was strongly suggestive of tubercular infection. I have looked diligently for tubercle bacilli. Four microscopical examinations gave negative results. Predominating bacteria were streptococci. Might we not consider this an acute pneumonia both preceded and followed by chronic pneumonia.

With a few practical inferences, I shall conclude my paper.

(1) We should remember that the farther inward, pneumococci, streptococci, and influenza bacilli move in the air passages, more virulent they become. Their virulence is a matter of medium in which they find themselves. Thus the importance of strict asepsis of mouth, pharynx, and nasal cavity becomes evident.

(2) It is the experience of many among us that a person with chronic bronchial in-

flammation is in greater danger of contracting pneumonia with smaller chance of recovery, than the person without it. We should become familiar with the bacteriology of bronchitis, so that we may be able to distinguish the pneumonic classes from the others, and treat them more rationally.

In the treatment of these cases the most effective remedies are creosote, guaiacol, ichthyol, cod liver oil and tonics. There is very little benefit derived from expectorants. In obstinate cases of streptococcic infection the effect of streptococcic serum is being favorably reported.

#### POSTERIOR COLPOTOMY, AND IODOFORM GAUZE PACKING IN THE TREATMENT OF PUERPERAL SEPTICAEMIA.

BY W. E. BELL, M. D., TERRE HAUTE, IND.

No post-parturient condition is more alarming than puerperal septicaemia, and I venture the assertion that no condition of equal gravity is more absolutely under our control. In fact, it is my belief now, that, with timely treatment, rarely will we have a death from septic infection through the parturient canal. I was not converted to this happy view of the high efficiency in the iodine treatment of this grave poisoning at once; and could only accept it with the profoundest doubts, until through experience and actual observation I had worn away every bristle of prejudice and distrust.

I am convinced that to install this treatment as a routine practice in septic cases of term deliveries or premature exigencies, our convictions must be firmly rooted and domineered by a dauntless courage leading to the purest honesty of purpose. To invade the peritoneal cavity has for so long been held up to us as a most hazardous step, that we are still somewhat in awe. And to boldly expose this long-attested sacred cavity, before the eye is able to detect any pathological changes whatever there, calls for a reach of courage which must germinate in strong convictions. It must be thought of in much

the same light as the destruction of buildings ahead of a conflagration, that the city as a whole may be saved. Our devastation is between the human and the invading pathogenic organisms.

Primarily, in all cases, we have the fountain head of the poison within the uterine cavity, and from this center the infection travels into the body of the uterus, out the lymphatics between the layers of the broad ligaments, and if not checked, beyond the uterine and annexal vascular and lymphatic systems to the lumbar lymph spaces and pelvic veins, on into the thoracic duct and into the general circulation.

Just what the specific cause of trouble in a given case may be, we are not always able to differentiate, and from practical maneuvering it is not at all essential that we know. It is claimed that poison arises from decomposing decidua in the uterine cavity, from some septic material introduced by the obstetrician, or by gonorrhoeal infection. But we have all known of large pieces of deciduous membrane having remained within the cavity for weeks with no ill effects. So also, have we known of cases of gonorrhoea passing safely the puerperium; and perhaps none of us will be so arrogant as to presume that no genital tract was ever polluted by our examining or manipulating hands. Any retained decidua, of course, makes a case more susceptible through an attractive pabulum in which mischief-making organisms may thrive; and unclean hands should never come in contact with the genital mucosa at this crisis. But I am not, and never have been satisfied that puerperal casualties are wholly preventable, even with the most precise and elaborate precautions. We who have many times bowed our heads in sorrow over cases of labor which have shown up sepsis subsequent to our attentions, may now take comfort from recent microscopic research, which has demonstrated that many forms of virulent micrococci and bacilli are more or less indigenous in the vulvae and vaginae of pregnant women. And while this should not, and must not cause us to relax our vigilance, yet it takes some of the bitter from our cups.

Dübendorfer claims to have found streptococci in 72 per cent of vaginae during gestation, and colon bacilli in 48 per cent. Franz makes positive statements that he found both strepto—and staphylo—cocci with colon bacilli in the uterine cavity of afebrile puerperae. This being true, it would seem, that strictly speaking, it must be impossible under any management to part company with all our obnoxious microscopic guests; and just why they at times see fit to invade the tissues with such disastrous results both mortally and morbidly, we are as yet unable to say. It may perhaps come through an acquired immunity gained through a sort of a symbiosis, as the streptococci and the staphylococci are frequently found in the healthy body, in the mouth, nasal cavity, vagina and cervix, in which individuals certainly the germs find suitable food for maintenance without in any way disturbing the normal equipoise of the organism in which and upon which they live.

I admire precise technique and I admire men who practice it and give to us the results of their laborious work. But I deplore the necessity of having at last, after having learned it through, to bundle it all into the homely budget of practical manipulation. How humiliating it must be to study the various cocci and bacilli, acquaint ourselves with the docility of some and the viciousness of others, and then to find the most benign at times becoming mad with desire for destruction, then to stand in open-eyed wonder at a colony of the most virulent holding sweet and serene commensation with uterine involution in the afebrile puerperae!

We are compelled then to say that under certain stimuli the streptococci in the uterus play the inert role of saprophites, and under other stimuli become carnivorously parasitic. This is what it means and resolves itself into that if 72 per cent are streptococci and staphylococci laden, with only one-half of one per cent of all cases of delivery showing any ill effects, we are well nigh forced to conclude that the remaining 28 per cent carried something like the same load of germs which escaped capture, and at last

we have puerperal septicaemia arising from predisposition and improper drainage, just as we have septic absorption in any field where there is traumatism and solution of continuity.

From what I am able to learn through recent literature, a sterile intra-genital field is an impossible goal—an asymptotic approach to a puerperal arcadia. This fact makes it all the more essential that our conduct in the lying-in chamber be as perfectly aseptic as possible; but with the greatest care intrinsic sepsis may thwart our most exhaustive plans.

The gonococcus seems to have a predilection for the uterine and tubal mucosa, and rarely passes beyond. Therefore its ravages are more prone to remain localized in the pelvic cavity. The streptococci are the most rapidly invasive, and often pass the uterine borders in from two to three hours, following principally the lymphatics. These, from the body of the uterus pass laterally between the layers of the broad ligaments and join others from the ovaries, fallopian tubes and broad ligaments; they accompany the ovarian artery as far as the lumbar glands, into which they empty. It will be seen that the streptococci with their ability of rapid mobilization, soon have the system in a profound condition of septicaemia. Thrombi in the uterine sinuses become infected and we have added to a lymphangitis, a thrombo-phlebitis. If this condition is allowed to continue and the patient survive for a sufficient length of time, it will be found that the body of the uterus is a mass of multiple pus cavities.

We are unable to tell in the inception of any case whether we have to deal with a malignant septic attack or not, and if we wait to be convinced by clinical tracings, we are very apt to see our knowledge gained through embarrassment of a mortuary nature. Symptoms of a septic character usually appear on the third or fourth day after delivery, in a rise of temperature with or without rigor. Other cases will run almost an afebrile course to the tenth or eleventh day and then give trouble. It has not been

my experience that most of the cases are ushered in with chills. On the contrary, I am sure, I have only noted a more or less sharp rise of temperature, without a chill. The temperature will range from one hundred one, to one hundred and five or even higher in susceptible cases. Do not depend upon fetid odor as pointing to sepsis in the cavum uteri. More often there will be no odor at all, and certainly there will be none as a result of lymphatic and venous involvement. Odor comes only from decomposing deciduous membrane or clots, and all this may have been thrown off, and the lochia, if any at all, be entirely free from any offensive odor. On examination of the pelvis, the uterus may be found tender, with tenderness along the broad ligaments, on one side or both, and usually, if there is not too much rigidity, the index finger within the vagina, will detect a nodular condition in the post-uterine and annexal spaces, due to enlarged lymphatic glands. Tenderness may be elicited over the lower abdomen, and some distention noted, but do not wait to be guided by this, as it is caused by the very extension we wish to avoid. I have regretfully reasoned away some very valuable opportunities through the false guidance of absence of these classical symptoms, and hopefully pursued conservatism to inevitable destruction. When confronted with a case of septic absorption taking place at the placental site, deal with it as you would deal with sepsis any place else in the body—endeavor to render the wound sterile, to give ample drainage and arrest further progress. If poison developed in a recently amputated leg, you would open the wound, cleanse it, drain it, and appeal to nature for restoration. In puerperal septicaemia the general conditions are no different, the parts but little less accessible, and more easily sterilized because of the great absorbing properties of the tissues surrounding.

It is highly essential in these cases that great vigilance be exercised on account of the rapidly developing poison, and the danger of too profound systemic saturation. In the presence of an elevated temperature, coming on from two to three or four days, or



even ten days after delivery, careful research should be made at once, to ascertain the cause. If no cause can be found outside of the uterus, then pay your attentions to it, and do it boldly and persistently; for a few hours may place your patient beyond help. I think, after careful examination, and satisfying yourself that the cause of mischief is within the uterus, it is our duty to at once begin active treatment. Two initial steps are advised by men high in authority: One the irrigation of the cavity with some antiseptic solution, with or without subsequent packing with gauze, the other curettment and packing. To my judgment the flushing is an unfinished and unsafe practice. If the pyrexia be a sapraemic condition, as a result of simple saprophitic activity, the irrigation will hardly suffice to remove the retained secundines, and while a temporary recession of symptoms may be noted, the decomposition will likely condition be due to parasitic action and the tinue with a return of trouble. If the con-mucosa be attacked, it is not rational to think that the irrigating medium may find and destroy the germs. I have witnessed some very alarming manifestations following the intra-uterine douching, and I have abandoned it. The careful curettment will do all that may be hoped for from the flushing, and any decomposing membrane will be removed along with clots, and the cavity be left clean. Now by placing a packing of iodoform gauze and allowing it to remain for two or three minutes, then removing, bleeding, which is profuse, will be largely staunched, and the cavity may now be firmly packed again with ten per cent gauze which is left in. If at this time a septic metritis does not already exist, the temperature will fall within twelve hours to near normal, where it will remain with gradual descent to normal. If, however, the temperature and pulse remain high, it is unsafe to delay longer than twenty-four hours, at which time an incision should be made through the posterior vault of the vagina into the cul de sac, and the pelvic cavity snugly packed with five per cent iodoform gauze. At the same time, and preceding the colpotomy, any pack-

ing should be removed from the uterus, and a fresh pack placed there. After the colpotomy and pelvic packing, the temperature will drop within from one to six hours. This almost magical descension of pyrexia was recently observed by me in a case operated upon for Dr. Baldrige of Rosedale, Indiana, in which, at the time of the operation, the temperature taken hastily in the axilla by the doctor while I was preparing my instruments, was 105 and the pulse 140. One hour after the colpotomy and placing of the packing, the temperature taken per rectum, showed 103 and the pulse had dropped to 100.

Iodine will be found in the urine in from two to six hours, which demonstrates the rapidity and extent of its absorption. The uterine packing should be removed in from three to four days, according to symptoms, and left out, but the gauze in the pelvic cavity should be left undisturbed for from seven to fourteen days, when it should be removed and a fresh packing substituted, of not quite the volume of the first. This should be left about one week, at which time, if a condition of apyrexia exist, a very light packing of iodoform or plain gauze, just through the cul de sac opening, may be kept up for one week, when all gauze may be discarded, and the vagina kept irrigated with saturated solution of boracic acid until the vault has entirely healed.

The operation of going through the posterior vault of the vagina into the cul de sac, is by no means difficult. The patient is placed upon a table in the dorsal position, with the hips well elevated. After anaesthesia has produced relaxation, the thighs are flexed well upon the abdomen by assistants. Mop out the vagina thoroughly with gauze saturated with bichloride solution, 1-2000. Now with a broad retractor, pull the perineum well down, when the fold between the vagina and cervix will be readily visible. I use a sharp scalpel,—although some advise the use of scissors,—making a slightly curved incision, well through the mucous membrane, corresponding to the cervico-vaginal fold, and in extent about two inches. A slight dissection now will carry

you to the peritoneum, and by rolling it over the posterior wall of the womb, the uterus being well pulled down by volcellum, you will convince yourself that the rectum is well out of the way, and that there are no adhesions of intestines to the dependent part of the cul de sac. This settled, there is nothing to fear. Now draw the tissues taught by spreading the index and middle fingers antero-posteriorly, and with the scalpel cut through close to the uterus, stopping with a small incision and continuing it by tearing laterally with the fingers, which will be easy if the incision in the mucous membrane has been ample. It is now a matter of ease to palpate the uterus and its adnexae. In the early stages no agglutination will be found, any more than you will find agglutination in fulminating cases of appendicitis, but enlarged lymphatics may be felt. With the aid of long retractors, and a proper instrument for pushing the gauze into place, the cavity is now thoroughly packed, placing it well into either side and posterior to the uterus. From seven to fourteen pieces are placed in position, each piece being six to eight inches wide and one yard long, folded the short way, and placed side by side, making sure that the upper ends are even with or slightly above the fundus of the uterus. The lower ends should not protrude from the vagina, and a self retaining catheter should be placed in the bladder and left there for from four to seven days, when it may be removed, and the attendant instructed to place a small ball of cotton well soaked with vasline within the ostium vagina preceding each act of micturition, to insure against getting urine into the vagina and on the gauze. After the patient has completed the act of urination, the parts are cleansed with boracic acid solution and the cotton removed. This, I deem much better than to allow the catheter to remain in so long, as many cases will develop troublesome cystitis from too long presence of the catheter. If the temperature should remain low, the patient should be encouraged to sit up in bed after the second packing, as the sitting posture favors the most perfect drainage.

Both the abortive and parturient infec-

tions arise from such a host of causative factors, producing such a variable degree of local and systemic disturbances, that any classification of cases with respect to the period of gestation, must be individually arbitrary. I can see no essential difference between the post partum and the post-abortive infections. The conditions are the same in kind, the only difference being the larger area for absorption and the more highly vascular condition of the uterus at term, than in the ante-partum organ. But sepsis in one is no different from sepsis in the other, and should receive the same treatment. Aside from the consideration of pure mortality, we have to think of morbid conditions. It is well known that in these cases we have agglutinations, adhesions and distortions which frequently places the individual in a condition of chronic invalidism and sterility, through post-inflammatory changes about one adnexus or the other, or both, all of which, it seems now, may be avoided, by prompt and proper treatment.

Where it has been possible in each case, I have had Dr. C. N. Combs, of the Union Hospital staff, test the urine for the Diazo re-action, and he reports to me that he has found it always. While this test may not be of proven diagnostic value, I should advise its employment. I am told that it does not appear in the first hours of the infection, and therefore would not advise waiting for the urine to become charged with this peculiar chromogen which gives the peculiar reaction described by Ehrlich. It is claimed for it that, the reddish color band will only appear in the urine of septicaemia, septicopyaemia, typhoid fever and advanced stages of tuberculosis. But when it is present, you have one more link in the chain of evidence fixing the diagnosis of puerperal septicaemia.

Dr. William R. Pryor of New York, reports 37 cases operated upon. Torrens, 6 cases, Killebrew, (Mobile,) 2 cases, Brooks H. Wells, 8 cases, Dr. L. J. Weinstein 1 case. I have operated on 8 cases. This makes 62 cases, I am able at this time to collect. Eleven of these cases had been previously treated by other methods, three of which

died. The only death I had in my eight cases was in a young abortive subject, in which the attending physician informed me he had treated by "uterine mopping." She had suffered for ten days, and for forty-eight hours had dark emesis, and was profoundly septic. I operated as soon as she could be prepared after I saw her. The pelvic cavity was full of an ichorous fetid pus.

In fifty-one cases, in which the pelvic packing was employed earlier in the infection, all recovered except one, giving a mortality of less than two per cent.

From this it would seem that the most conservative must grant an advance in the proper management of puerperal septicæmia. Curetting alone shows a mortality of 22 per cent; antistreptococcus serum therapy, a mortality of 33 per cent; hysterectomy, a mortality of 55 per cent; and all trusted to medicine and nature's efforts, a mortality of 25 per cent.

Is there not a star of hope ahead in the iodine-colpotomy treatment of this most dreaded disease?

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## COUNTRY SURGICAL TECHNIQUE.

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BY J. A. BAUGHMAN, M. D., NEOGA.

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It is our purpose to demonstrate to some extent on our subject. It will perhaps be best to read uninterruptedly our paper and then demonstrate. Our experience has lain almost wholly in the rural districts, a prosperous farming community, an experience which has been reasonably full of surgical and consultation work.

During these years of toil we have gradually crystalized into a certain mode of surgical preparation which we have found practical in country practice, where often a long journey over dusty or muddy roads is necessary to reach the place of operation.

First the room in which to operate should be prepared if there is not the hurry of a great surgical emergency.

Tell those who prepare the room to select the best lighted one in the house. A

homely expression that they will always execute quite well is "Make the room as bare and clean as a bottle."

After it is clean allow them to place therein a stove and two tables, the latter covered with recently boiled sheets.

That is your room, in which you can do most excellent surgery, work which no hospital can surpass. There is no doubt about this and you physicians who cart your patients away promising them more sanitary positions in crowded city hospitals are either wanting to slip your patient out of the community for selfish reasons or you have not yet learned that soap and water, antiseptics and the free air of heaven are capable of greater achievements in the country than in the foul cities.

You are either greedy or lazy and are trying to save your hide in either case, when you would fulfill the manliness of our art much better by bracing up and doing some creditable surgery at home.

Do not set up the plea of lack of instruments or impossible asepsis.

Here we show about all the instruments you need in a great variety of abdominal operations. Here we see all that are necessary for an amputation. They are cheap. They do not cost much more than a good horse. Their containing case consists of four towels. Shun a useless, dirty, cumbersome operating case. Your knives you protect by wrapping them in a little cotton as you here see.

Wrap the whole bunch in some towels and boil them in a weak solution of sodium carbonate to prevent rust and dissolve grease that may be on them. At your destination discard the first towel entirely. The second and third one may be used for antiseptic table covers, the fourth one being left over the instruments up to the moment of operating.

Of course it should be understood that your hands are clean and finally sterile before you touch the instruments themselves.

Now for your pans. You have about one dozen of different colors and sizes incased



in two sacks. They have been thoroughly boiled. You slip off the sacks when your hands are sterile and there you are, steril pans inside and out, they are safe, keep them thus.

Your solutions, a saturated solution of potassium permanganate, one of oxalic acid, and from two to four gallons of filtered or carefully strained water, should all be contained in bottles, in which they are carefully boiled for three hours. These bottles may be set in a wash boiler of water to be boiled and the corks and retaining protecting cloths you see over the neck of these bottles should be tied fast to the bottle neck before boiling. The corks which are loose when the boiling is being done can be pushed into the bottle without being touched and when you reach your destination you can empty the solutions from the bottles knowing that the neck of the bottle is yet sterile and will not contaminate the solution passing through it.

The sterilizing of the hands and of the field of operation is with me very much the same.

Six pans are necessary for this process alone: 1st soap and water; 2nd potassium permanganate; 3rd solution of oxalic acid; 4th sterile water; 5th corrosive sublimate; 6th sterile water. Time for the hands 20 minutes and as much longer for the field of operation.

Gauzes, towels, gowns, caps, a sheet and silk sutures are packed in a package as you see here and prepared in an Arnold or Beckman sterilizer.

There is no need of taking the sterilizer with you. If you have arranged your bundle nicely the outside towels will do as table covers as in the case of the instruments.

In this small package you will see three gowns, three caps, one sheet, two dozen towels, silk sutures, a bunch of cotton and forty pieces of surgeons' gauze which we use for sponging, absorbent and dressing purposes.

Now as to a table. There is a most excellent folding, all iron table made by all our

instrument houses that we can place in the back end of a 22-inch piano box buggy and transported for miles.

The cost of mine was \$12.50. True two other instrument houses asked me \$22.50 for the very same article on the same day I bought this one, but it is some times to our interests to deal with the bargain counter man. This table is a most excellent common sense article and will please you if you secure one.

We will briefly report three cases upon whom an operation was performed with the identical means or appliances here shown.

Mrs. L., Trilla, Ill., in the practice of Dr. H. B. Vavatta, age 55, past the menopause, well nourished for some two years had a gradually increasing tumor in the abdomen.

Diagnosis, ovarian cyst or uterine fibroid.

Operation Nov. 13, 1902, assisted by Drs. Vavatta and Little.

The uterus a fibro-myxomatous mass of seven pounds with the ovaries and tubes was removed through an abdominal incision.

The patient made a rapid nonfebrile recovery. We believed our technique in this case good.

Case two. Mrs. B., Neoga, Ill., age 40, still menstruating, poorly nourished, the mother of four children, had suffered for years with exceedingly painful ovaries which were found small walnut sized fibro-cystic bodies. Her nervous condition for years had been pitiable. The appliances you see here were again used to remove ovaries and tubes. A very rapid nonfebrile recovery ensued. The abdominal incision leaving a mere line for a scar.

Case three. Mrs. E., a physician's wife, aged 20, had been suffering for about two years with a pyosalpinx. Operation in Jan. 1904. Her temperature on the morning of operation was 101, a degree lower than it had been for some weeks. A large pus tube which was very adherent was removed from the left side. The right ovary was as large as a very large orange and of a haematous character. In fact it had some days before the operation liberated about a pint of blood into the pelvis. It was removed.

Her temperature never raised above what it was on the morning of the operation and in a week was normal.

These cases were all operated upon in their homes and were not under the care of a trained nurse, but common sense, obedient women attendants were found all sufficient.

Now then gentlemen this is in a manner a plea that when you go home and you have not already done so, prepare your selves with a few of the inexpensive necessities we have here shown.

Keep them ready to clap on the gasoline stove, boil them from one-half to three hours according to the time you have, go to the country and do some surgery.

A certain knowledge of anatomy as a matter of course necessary. But study the position of the main arteries and you and a haemostatic forceps can easily take care of the smaller ones that you find as you sever them.

You can, if you will, by these methods keep the best part of your practice at home and reap the coin and honor for your own granaries.

#### ILLINOIS STATE MEDICAL SOCIETY.

Proceedings of the Fifty-Fourth Annual Meeting Held at Bloomington, May 17, 18 and 19, 1904.

General Session. First Day, Tuesday May 17, 1904.

The Society met in general session in the Unitarian Church, and was called to order at 9:15 A. M. by the President, Dr. Carl E. Black, of Jacksonville.

Dr. E. Mammen, of Bloomington, Chairman of the Local Committee of Arrangements, made a brief report on behalf of that committee. He stated that there was a little change made in the order of proceedings. The formal opening of the Society would take place that evening, in the Unitarian Church, at which time an address of welcome would be delivered by the Hon. A. E. Stevenson, representing Mayor George C. Morrison, and an address of welcome on behalf of the McLean County Medical Society, by President F. C. Vandervort. Response to these addresses would be made by President Black on behalf of the Society. Following the response to the address of welcome would be the delivery of the President's annual address followed by the address of Section One, by Dr. William E. Quine, of Chicago.

The Committee had provided places of meeting for the Sections; also ample space for the exhibits. The sessions of the House of Delegates would be held in the Illinois Hotel.

Invitations were extended to the members of the Society to visit the Illinois State Normal University, and the Illinois Wesleyan University, as well as the Public Library, and other points of interest.

It was announced that a banquet would be given Wednesday evening to the members of the Society and guests at Cooper Hall. Receptions for the visiting ladies were announced.

It was announced that the address of Section Two, by Dr. A. J. Ochsner, of Chicago, would be delivered Wednesday, at 11 A. M., immediately after the Symposium on Tuberculosis.

The general session then adjourned.

Re-convened Thursday, May 19, 12 o'clock noon, with President Black in the Chair.

E. Mammen, chairman of the Committee on Arrangements presented an incomplete verbal report of the work of his committee. He stated in substance that there would be no deficit.

It was moved by Will that a vote of thanks be tendered to the local profession and to the people of Bloomington for their hearty and kind entertainment of the Illinois State Medical Society. Carried.

President Black took the occasion to express his hearty thanks and appreciation for all kindnesses conferred upon him during the past year by the officers and members of the Society. He then read a report of the House of Delegates of the officers elect.

He requested W. O. Ensign to escort President elect William E. Quine to the rostrum where with a few well chosen words he presented him with the gavel and to the Society as its President.

President Quine in accepting the gavel said in substance that he highly appreciated the honor that was conferred upon him, and that it would be his utmost endeavor to, during his incumbency as President, do everything in his power, even at great personal sacrifice, to advance and further the interests of the Illinois State Medical Society and the Medical Profession of the State of Illinois.

Adjourned Sine Die.

#### Minutes of the House of Delegates.

The House of Delegates convened at 2 P. M., May 17, 1904, in the Assembly Room of the Illinois Hotel, Bloomington, with President Black in the Chair.

The Secretary called the roll, and it was shown that there were 29 members present, a quorum.

The first order of business was the reading by the President of his message to the House, in which were embodied many suggestions.

#### Introductory.

To the Members of the House of Delegates of the Illinois State Medical Society.

The difficulties of putting into operation a new constitution and by-laws will be apparent to you in the work this year. It has had many

irregularities and difficulties arising from re-organization, not only of this delegate society, but of each of its component county societies.

The task of conceiving this plan and seeing it in all its main features, so that the various existing units can be brought together without losing any of their unit vitality, and at the same time forming them into a harmonious and smooth working whole, is a task which will require several years for its completion.

During the year twenty-three new counties have been organized and have begun work in affiliation with this society. We now have local organizations in 93 out of the 102 counties of the State. In three instances two counties have joined together instead of undertaking to maintain separate societies.

The suggestions which follow are among those made to me from time to time during the year, and while they are not all expressions of personal opinion, they seem to be worthy of your consideration, and are presented to you for that reason.

#### Financial.

You may be disappointed at the number of members reported. Former estimates of the size of the Society were altogether too large owing to the duplication of members. For example, after going over the matter with the Secretary of Chicago Medical Society an assessment was based on 1,355 members, which was a considerable shrinkage over what the number was supposed to be, yet since the collections were made only 1,100 members have been accounted for, giving us nearly \$500 less income than we estimated, and Journals have been sent to 1,355. Thus we see that owing to unavoidable shrinkage in former estimates of membership we have received fully 25 per cent. less from annual dues than was estimated when an assessment was made last year. Much of this shrinkage is only temporary and arises from the change of plan of making collections. Our local secretaries have not learned the work and the members have not become fully informed as to the new plan of paying to the local secretary instead of the State Treasurer. By the end of another year all this will straighten itself out and a large amount of these back dues will be collected. We should exercise patience in this matter and not be hasty in concluding that a member or a society do not wish to continue simply because the dues do not appear as paid at this time. We have already collected from over 2,600 members and there are still nearly 1,500 from whom we will probably hear. The Journal has cost us about \$4,300 and our other expenses are in excess of \$2,000. Advertising has yielded \$2,214 with some accounts still uncollected. While our actual shortage will be little if any more than a year ago, the work has had to be curtailed in many directions to produce this result. The detailed report of the Council will supply you with the actual figures.

#### A. M. A.

It will be much easier for the State societies when the re-organization scheme is adopted

in full and the American Medical Association is entirely re-organized upon the new plan. Little misunderstandings arise from the indefiniteness of the present relation.

#### Opportunity for Representation to A. M. A.

The question arises as to how many delegates we are entitled to to the A. M. A. I certainly think that the members who have not paid but are still carried on the books of the local secretary and of our own secretary, should not be denied representation this year. The re-organization is as yet not fully understood and the intentions of the vast majority of these men is good. I trust you will give this matter an exceedingly liberal interpretation.

#### Surplus of Local Committee of Arrangements.

Some more specific rules should be adopted regarding any surplus funds which may be in the hands of the committee of arrangements. Several times in the history of the society friction has arisen over this matter. You should guard against this in the future.

#### Delegates to A. M. A.

You should devise some plan by which our quota of delegates to the American Medical Association will be kept full during the session, and by which some officer, preferably the chairman of our delegation, should be instructed to report back to the State Society. Last year there were several matters of importance arising in the House of Delegates of the A. M. A. in which our views were not properly voiced, because members of our delegation were not present. In the selection of delegates we should choose those who are willing to give up the necessary time to the work of the American Medical Association, and fore-go much of the literary and scientific program.

#### Dr. McCormack.

During the year, upon invitation of your President, Dr. J. N. McCormack, chief organizer for the American Medical Association, has visited Illinois and given us valuable instruction in matters pertaining to harmonizing and unifying the profession. Dr. McCormack visited the members of the District of Councilor J. L. Harvey in a district meeting at Jacksonville. He went to Mattoon with Councilor Newcomb, with the result that a good society has since been organized in Coles County. He met the physicians of Councilor Barlow's district at Olney, and those of Councilor Percy's district at Galesburg. It is eminently proper that you should in some way recognize these valuable services.

#### An Organizer.

This has been the first year in which the work of organization has been placed in the hands of your Councilors. Each councilor has certainly done his best to perfect re-organization in his district. Several of the districts now come to us with complete delegations, and in the whole State there are only nine of the counties without a component society entitled to representation in this House. However, many of these county organizations are as yet



little more than nominal in character and must receive your attention.

It is asking a good deal for each councilor to undertake the detail of perfecting an organization in each county, that is, of seeing that this organization is complete, and that the society is not simply a representation of some clique or small proportion of the practitioners of the county.

We should seek to represent every doctor who is of sufficient respectability to be entitled to any consideration whatever. We should remember that one of our privileges, as well as duties, is to educate and train the man who is not quite in harmony with his colleagues, or is possibly a little off color in his practice.

It has been suggested, and I think the plan admirable, that you provide for one or more body organizers in this State. It is estimated that two men, one in the city of Chicago, and one in the State at large, could personally interview every physician in this State during a year. These men would be under the direction of the Councilor of the district and the officers of the local society while at work, and would be able to present, at the end of the year, through the secretary's office, a detailed statement of the character and standing of every physician in Illinois, regardless of the school of graduation, or society membership. They would report to us those who do not belong to a medical society and the reasons given by each for remaining outside of our organization.

Hundreds of good men are still outside, because they have not had the influence and advantages of organization presented to them personally and in detail by some one thoroughly competent to make such presentation. It is entirely too much to expect your Councilors to undertake this detailed work. If we are ever to attain that high degree of organization, which we believe to be so much desired, some plan of personal solicitation must be adopted. This problem is most respectfully presented for your consideration.

This is doubly easy under our new plan of organization because there will be three societies instead of one to bear the financial burden—the local society, the State society and the A. M. A. all have equal interests. When our organizer gets a member of a local society he is a member of all three and the expense should be equitably distributed all along the line. Even if it should cost \$2.00 for each member it would be a good investment as well as a good work for the cause.

#### **President and President-elect.**

It is pertinent to your consideration whether or not our Society has attained sufficient proportions to warrant a change in the method of electing your president. With a Society of several thousand members, distributed over a great State, divided in 102 counties, publishing a Journal and undertaking many lines of work which were formerly not thought of, it is a question whether or not your chief executive officer should not be relieved from the necessity

of preparing a public address, to be delivered at the end of his incumbency.

It has been suggested that our principal address should be delivered by a president-elect, and the executive duties performed by a president who has had a year in which, not only to prepare his address, but also to prepare for his year of executive work. Several societies have adopted this plan, and it is believed to be conducive to better annual addresses, as well as to better and more comprehensive executive work.

After one has answered the demands of professional work and attended to the various executive and advisory duties required of your president, there is no time left in which to prepare an address of the quality to which so distinguished a body of listeners as gather at our annual meetings is justly entitled. Under present conditions either the address or the executive work is likely to suffer. Few men elected to this chair will have sufficient time for both. With rare exceptions your presidents have been men in active professional careers.

#### **Special Committees.**

Formerly it was the custom in this society to have annual reports on various designated subjects, and it has been suggested that from time to time we should appoint special committees to seek information and report back to this society. Some of the topics which have been named as desirable for the work of special committees are as follows:

#### **State Institutions.**

Our State institutions for the insane are preeminently medical institutions. Their superintendents are members of our profession, and should all be members of this society. I feel quite certain that all of them would be pleased to have this body appoint a committee, or if you please, several committees to visit during the year these institutions and report back the result of such visits and investigations. In this way the profession will receive valuable suggestions and superintendents of the State will receive the support of more intimate relations with the profession. Such a committee could bring more forcibly before us the need of an Epileptic Colony, apparently so much needed, and many other needs.

#### **Medical Schools.**

Our medical schools and the condition of medical education in this State is another subject which should have the oversight of a special committee, which would, during the year, visit each institution and give us the benefit of their observations.

#### **State Medicine and Hygiene.**

State Medicine and Hygiene is suggested as a suitable subject for special investigation, and one which is especially desirable at this time on account of various propositions arising in connection with tuberculosis, and could be of material assistance to the State Board of Health and to various local boards of health in bringing more closely to this organization the work which properly belongs to us. In fact, we should have

within this Society a sort of Public Health Association, which would be a reorganization of Section 3, upon much broader lines than formerly.

#### Medical Defense.

Few things are more interesting to the average practitioner, than medical defense. This has now been worked up to a practical utility, which is of financial value and moral support to every practitioner where it is applied. Your Council will make a special report, with recommendations, upon this subject, and it is to be hoped that this body will see its way to the establishment of a department of medical defense.

#### Legislative Committee.

The following letter from the Chairman of the Legislative Committee, and the Committee on Public Policy of this Society, will explain the condition of this Committee during the past year:

Chicago, April 18, 1904.

Dr. C. E. Black,

President Illinois State Medical Society,  
Jacksonville, Ill.

Dear Doctor:

Yours of April 9th received, and in answer will say that at the meeting of the State Medical Society I was elected a member of the Legislative Committee without my **knowledge or consent**, having been informed of my election after the meeting.

During the year I have done nothing, neither have I been communicated with in regard to any Legislative matters, and I supposed it was an off year; that the active work would have to be done next year. Under these conditions I have no report to make. Will not be able to attend the next meeting as I have a case that I am **particularly** anxious about that is due at that time and I cannot be out of the city. I do not think I care to act in the same capacity another year for it would be hard work for any one to make a record after the excellent work you did last year. I have not the time to give to the work and do it as it should be done and I would not take hold of it without I could make a success.

Kindly ask one of the other members to act as Chairman at the next meeting, and greatly oblige,

Yours respectfully,

(Signed) P. M. Woodworth.

You should consider what instructions will be given to the Committee on Legislation, which will be elected at this meeting. Since your adjournment in Chicago, a year ago, the bill, which we all hoped would become a law, failed to pass the last Legislature owing to conditions which could not be overcome by the Legislative Committee at that time. It is now pertinent for this Society to decide whether the effort to secure a separate Board of Examiners will be continued at the next session of the Legislature; also whether or not it would be desirable to suggest a revision of the law organizing our State Board of Health.

The establishing of an epileptic colony by Illinois is one of the Legislative questions which

should receive your attention, as is also the question of establishing sanatoria for consumptives. These are among the several legislative questions which are at present demanding consideration.

#### Committee on Public Policy.

Our experience this year would seem to demonstrate that it is bad policy to combine the Legislative Committee with the Committee on Public Policy. While these committees can assist each other there are some questions arising in Public Policy which are a distinct embarrassment to the Legislative Committee, and vice versa.

#### Council.

I wish to take this opportunity to say a word about the work of the Council during the past year. Certainly no executive officer could have had more hearty and earnest support than has been given by your present Council. Each man has worked early and late for the up-building of the interests of this society in his district. This has been done at a very considerable sacrifice of individual time and money. Each Councilor has tried to look after the interests of each county, although some of the districts are so large that it has been impossible for them to visit every county society or to organize every county. However, the work done has been large.

Besides it devolves upon the Council to handle all the funds of the Society and transact all of its business.

This Council has inaugurated a complete card index of the profession of the State, and a copy of this index is now in the hands of your Secretary, and a duplicate copy for each county will soon be in the hands of each county secretary. This index is complete as far as the data furnished by the Illinois State Board of Health can make it, and they have agreed to furnish us quarterly reports on cards which will always keep it up to date. It still lacks some of the data desired by the American Medical Association for its proposed directory, which can only be secured by a special solicitor, or by a great deal of work by county secretaries. This index will greatly facilitate the work of your organizer, if you should see fit to appoint such. The work of the Council will be presented in detail in the report of its chairman, and also in the reports of each individual Councilor.

#### The Journal.

The Journal has been published regularly, and an examination of its columns will show that substantial progress has been made.

You should declare by resolution that the published Journal is the book of minutes of this Society.

The question of advertising has been a source of some worry to your officers, but we hope that those accepted have not given offense to any member. If they have it would be pertinent for your body to formulate such rules for accepting advertising as you deem best. Early in the present year we engaged an advertising agent in Chicago, and opened an office there for the purpose of soliciting advertising. While



this agency has not yielded the returns which we hoped, we believe that progress has been made, and that much of the hard work of this year will bear fruit during the next. There is one way in which every member can be of great assistance in building up the Journal and that is by speaking to traveling salesmen about the Journal, as an advertising medium, and suggesting that they place their advertisement with us.

The Journal is a part of the property of every member of every county society and as such is of equal interest to all. We should all be careful to patronize, as far as practicable, those who advertise with us, and in that way give us the benefit of their patronage in return for ours. If each member will keep this matter in mind it will greatly facilitate the work of your Journal.

It costs over \$1.00 per year per member to publish the Journal. This year the expense has been about \$4,300. The report of the Council will give you the exact figures.

#### **The County Society.**

The officers of the State Society have had considerable work during the year in explaining the relation of the county society to the State Society, and also the relation of these two societies to the National Society. Much good work has been accomplished in securing new societies and in securing members for old societies. However, we are just now at the most difficult part of the problem. We have in almost every county in the State the nucleus of a society. It must be admitted that many of them are little more than a name, and none of them contain the proportion of the physicians of the county which they should.

There are some abuses which have crept in to some counties. In one society I discovered that five or six men were representing themselves to be the county society without giving any of the others an opportunity to join. We should use every means to be sure that the delegate sitting in this Society really represents the profession of his county and is not representative of any coterie or clique. In the county above referred to, the Councilor took the matter in hand and corrected it without difficulty.

#### **District Society.**

I wish to call your attention to the report which the Council will make to you upon the subject of the district society. We have encountered much friction during the year from several district societies. This friction has arisen from two causes.

First, the status of the old district society was left undefined at our last meeting. This has made many of the members apprehensive that their district society was to be crowded out.

The second trouble was the unfortunate division of the territory of several of the old district societies. A number of these district societies antedate any others in the State in age, and have been doing most excellent work for over half a century. They have grown up in a sort

of natural way, grouping together counties accessible to each other and having similar interests.

The Council will report to you a plan of redistricting the State, which is based upon the principle of preservation of the old district society as far as is compatible with the best interests of all concerned.

This plan retains in the main, the territory of every old district society. In one or two instances this territory is slightly curtailed, and in several other instances the territory is enlarged.

During the year I have visited every district society in the State, and have given them my personal pledge to do everything in my power to make these and honorable societies the Councilor District Societies. I believe that this will give us the best district societies, and at the same time will promote harmony and good feeling among our members.

It is entirely unnecessary that anything should be done to seriously disturb existing district societies. The organization of county units does not disturb them, but in fact strengthens them. I thoroughly believe in the county society as the unit of organization, but I also believe in the district society as a necessary local combination of these county units, and our constitution provides for just such societies.

The report which the Council will present to you will be based upon the plan of preserving the old district societies as far as practicable. Some of these district societies are older than the State Society, and the history of our State Society would be incomplete without their history and progressive influence.

The district society must have a definite relation to the county and State Society in order to perpetuate its usefulness. The reorganized society should be composed of county units, which meet monthly or quarterly district units, which meet annually, special societies to meet special needs, a State Society and a National Society.

#### **Other Changes in Constitution and By-Laws Suggested.**

Considerable difficulty has arisen in applying the new Constitution and By-Laws from the wide separation of duties and subjects which belong together.

For example there are nine articles and chapters in which reference is made to the duties of the Secretary, and there are ten articles and chapters which treat of the duties of the Council. While it would be unwise to attempt a reframing of the sections, the following are a few minor changes which should be made in order to make the intent more clear:

First, Constitution, Art. VI, Sec. 3, may be read so as to convey the idea evidently intended, viz: that all acts, etc., should require approval by the Council, or in the language as there employed may be construed to make it mandatory on the Council to approve "All acts" etc. To obviate such a rendering, it is suggested, after the word "Council," to insert the words **before the same shall become effective.**



Second, By-Laws, Chapt. IV, Sec. 2. The word "Including," which occurs in Section 1, has been omitted from the text before the word "Surgery," and should be restored.

Third, Chapt. VI, Sec. 2. The matter of the sessions of the House of Delegates and those of the Society is so mixed as to be made quite obscure. While a very careful reading of the text might give its meaning, yet if the word "its" be substituted for "the" before the words "first session," and the words "of the Society" be added after "General Session," the section would be thus rendered much more intelligible.

Fourth, Chapt. IX, Sec. 1. Contains an entire line, viz: "A Committee on Medical Registration," which has not now and never had by amendment or otherwise, a place in the text of the law of 1903. It is wholly foreign.

Fifth, Chapt. IX, Sec. 2. The word "the" before "Society" in the fourth line should either be omitted, or a like word placed before "Secretary" in the second line. This is of slight importance however.

Sixth, Chapt. X, Sec. 3. The original draft contains these words, "The Council or House of Delegates shall have authority" etc. The point is raised that two distinct bodies were given like authority to revoke and therefore might come in conflict. The law authorizes one body to issue a charter and another to revoke it. Should not the same body that issued it be the one to revoke it, and the body authorized to issue a charter is the Council. If the society having its charters revoked is aggrieved, it can appeal to the House of Delegates.

Seventh, Chapt. X, Sec. 8. "Name shall be transferred," should read **may** be transferred, otherwise component societies, including Chicago Medical Society, should be compelled to comply with the law. Which is intended?

These matters may seem of small importance to you, yet in practically applying our Constitution and By-Laws they assume a different aspect and for this reason are submitted for your consideration.

#### Our Records.

Only one set and it lacks 1855. This should be placed in some fireproof and accessible place. I should have suggested some Library in Chicago, but I understand there is a complete set there. Would it not be a good plan to deposit it in the State Historical Library at Springfield?

In conclusion, I wish to say that in the main the plan of reorganization is excellent, and will greatly promote the interests of the profession and the State. Another year the work will be better understood, and will go on much more smoothly. Your Councillors will have more time to devote to individual work with the members and the building up of the county units within their district.

It was moved and carried that said message be received and the suggestions contained therein be referred to a Committee of three which shall report tomorrow, at 3 P. M.

The chair appointed as such committee, Delegates, Will, Norbury and Preble.

The secretary presented a letter from W. W. Keen, of Philadelphia, asking that some action be taken for the collection of funds to be devoted to the purchase of a monument to the late Walter Reed, M. D.

It was moved by Norbury, and carried, that a committee be appointed to devise some plan by which "we can cooperate" in the erection of the monument proposed. Carried.

The Chair appointed as such committee Drs. Norbury, Webster, Percy, Walls and McAnally.

The Secretary presented a lengthy communication from Dr. Allport, of Chicago, containing a WHEREAS and RESOLUTION adopted by the American Medical Association at its last meeting, and asked for some action upon it.

It was moved by Ryan, and seconded by Marcy, that this resolution be referred to a committee for action.

The Chair appointed as such committee Drs. Ryan, Adams and Pierce.

The Secretary read the bills of the Councillors of their traveling expenses in their work during the past year in organizing the various county component societies, and in attending the meetings of the Council.

It was moved by Webster, and seconded by Marcy, that said bills be paid and an order drawn on the Treasurer for the same. Carried.

Said bills are in figures, as follows:

C. Barlow .....	\$ 85.74
W. K. Newcomb .....	61.40
Wm. O. Ensign .....	79.06
J. C. Sullivan .....	54.00
J. F. Percy .....	84.43
L. J. Harvey .....	128.76
O. B. Will .....	36.30
M. L. Harris .....	30.00
E. W. Weis .....	26.00

Here the Councillors read their individual reports of the condition of organization and of medical history of their respective districts.

It was moved and carried that said reports be accepted.

Chairman Ensign, of the Council, read a part only of the recommendations of the Council after which it was moved and carried that the questions of constitution and by-laws be taken up seriatim. Carried.

It was moved by Ryan, and seconded by Harvey, that the redistricting of the State, as suggested by the Council, as per map (printed on cover page) be adopted. Carried.

Page 29, Chapter 11, Section 4: it was moved that section 4 be added to said chapter. The local Committee of Arrangements, after paying all legitimate expenses of the meeting, shall turn all surplus, if any exists, into the Treasury, and the Illinois State Medical Society shall not assume any liabilities for any deficit. Carried.

It was moved by Ensign, and seconded, that the fiscal year be from May 1st. to the succeeding April 30th. Said motion was amended by Preble, and seconded, that it shall be from January 1st. to December 31st. next succeeding.

The amendment was amended that dues for current fiscal year are to pay until January 1st.

next. Said amendment to amendment was accepted by Preble. The amendment was then put and carried, and the original motion, as amended, was carried.

Notice was given by Ensign to amend constitution relative to election by House of Delegates of first and second vice presidents. Said notice must lie over for one day.

It was moved by Ensign, and seconded, that a committee of three be appointed by the Chair, of which Black shall be chairman, to publish an analytic index to the constitution and by-laws. Carried.

Notice was also given to change Article 6, Section 3, of the constitution, which said notice must lie over for one day.

Chapter 6, Section 2. It was moved by Ensign, seconded and carried, that the first "the" in fourth line, be changed to "its;" the word "session" in fourth line, be changed to "meeting," and the words "of the society" be added to said section.

It was moved by Ensign, and seconded, that in chapter 9, section 4, the word "shall" in the eighth line, be changed to "may". Carried.

It was moved by Ensign, and seconded, that in Chapter 10, Section 3, the words "House of Delegates" in said section be changed to "Council." Carried.

It was moved by Ensign, and seconded, that in Chapter 8, Section 2, the words "House of Delegates" in the eleventh and twelfth lines be changed to "Council." Carried.

Notice was given by Delegate Ryan to add in Article 5, after the sentence "(a)" "shall be for two years."

The secretary read his report, and it was moved that the same be received and approved. Carried.

Report as follows:

#### To the House of Delegates of the Illinois State Medical Society.

Your Secretary begs leave to present the following:

Persuant to the orders of the Council I levied an assessment on the component societies, as per list of membership furnished me by the local secretaries. This roster at the time was very defective, in that some of the secretaries were imbued with the idea of making as good showing as possible, and therefore sent the names of members some of whom long before dropped out or had removed. Other secretaries failed to furnish such list and only presented those names when payment of the respective dues were made. This will account in a great measure for the excessive amount levied when compared with the actual amount paid. On the other hand you will notice in the following report that several counties have exceeded the amount levied, this being due to new members. In parenthesis I would like to say that the success of a medical society depends upon the activity of its secretary, and I am proud to acknowledge here the fact that we have in our component societies some of the most active and able workers, and I have no doubt but that in the near future, as soon as the new condition of affairs is thoroughly understood that the

membership of the component societies will be rapidly increased.

Appended herewith is the financial statement of monies received by me from June 10, 1903, to May 1, 1904, also the statement of monies received from May 1, 1904 to May 15, as follows:

(Where no assessment was levied there was no return made of membership.)

County.	Assessed.	Paid me 1903-4.	Paid me 1904-5.	Paid Brown.
Adams .....	\$ 118 50			100 50
Alexander ...				
Bond .....	28 50	15 00		6 00
Brown .....		21 00		
Bureau .....	69 00	51 00		13 50
Calhoun .....	7 50	1 50		7 50
Carroll .....	31 50	16 50		
Cass .....	30 00	3 00		
Champaign ..	70 50	43 00	7 50	
Crawford ....		28 50		4 50
Christian ....		30 00		3 00
Clark .....		18 00		1 50
Clay .....		7 50		
Clinton .....		15 00		
Coles .....				
Douglas .....	36 00	10 50		
De Witt .....	37 50	21 00		1 50
De Kalb .....				
Edgar .....				22 50
Edwards .....	15 00	7 50		
Effingham ....		37 50		3 00
Fayette .....	12 00			18 00
F. R. V. for Kane and McHenry ..				
Fulton .....	64 50	18 00		3 00
Gallatin .....	15 00	4 50	9 00	13 50
Green .....	31 50	10 50		
Grundy .....	22 50			24 00
Henry .....	21 00	1 50		21 00
Hancock .....		15 00		24 00
Henderson ..				
Jackson .....	30 00	22 50		3 00
Jasper .....			22 50	
Jersey .....	19 50	1 50		7 50
Jo Daviess ...	43 50			43 50
Johnson .....		22 50		
Kankakee ....	48 00	55 50		
Kendall .....	15 00	12 00		4 50
Knox .....	63 00	30 00		
Lake .....	25 50	37 50		1 50
La Salle .....	67 50	30 00	1 50	19 50
Lee .....				
Livingston ...	58 50	33 00		37 50
Decatur Med. Soc. for				
Macon .....	102 00	27 00		63 00
Macoupin .....	55 50	27 00	3 00	10 50
Marion .....	28 50			21 00
Marshall .....	27 50	6 00		
Mason .....			18 00	
Massac .....		16 50		
McDonough ..	30 00	18 00		3 00
McLean .....	133 50	72 00		31 50
Menard .....			25 50	
Mercer .....	37 50	4 50		
Morgan .....	72 00	30 00		19 50
Ogle .....	33 00			33 00
Peoria .....	103 50	61 50		
Pike .....	40 50	31 50		9 00
Pope .....	19 50			
Pulaski .....	25 50	16 50		
Putnam .....				
Richland .....	21 00	19 50		1 50
Rock Island ..	57 00	48 00		16 50
Sangamon ....	102 00	79 50	12 00	1 50
Schuyler .....	6 00			1 50
Scott .....				19 50
Shelby .....		10 50		
Stark .....	13 50	18 00		
St. Clair .....	99 00	30 00	45 00	58 50
Stephenson ..				
Tazewell .....	16 50	3 00		
Union .....	19 50			23 50
Vermillion ....	79 50			55 50
Wabash .....	33 00	7 50		1 50
Warren .....	36 00			30 00
Washington ..				
Wayne .....		19 50		

County.	Assessed.	Paid me 1903-4.	Paid me 1904-5.	Paid Brown.
White .....	27 00			
Whiteside ..	31 50			12 00
Will .....		36 00		
Williamson ..				
Winnebago ..	78 00	33 00	13 50	13 50
Chicago Med. Society ....	2,033 50	150 00		1,500 00
	\$4,330 50	\$1,388 50	\$157 50	\$2,278 50
		157 50		
		\$1,549 00		

The following component societies have made advance payment for 1904-05 paid May 1st, 1904 to May 12, 1905:

Bond County .....	\$ 19 50
Champaign County .....	7 50
Christian County .....	1 50
Coles County .....	18 00
Effingham County .....	1 50
Jasper County .....	1 50
Lake County .....	1 50
Mason County .....	3 00
Vermillion County .....	88 50
Whiteside County .....	13 50
	<u>\$156 00</u>

Received from Committee on Arrangements. Chicago .....	\$511 19
Received from Macoupin County .....	\$14 00
Received from Henry County .....	1 50
Received from Hancock County .....	1 50
Received from Carroll County .....	13 50
Received from Gallatin County .....	3 00
Received from Wabash County .....	7 50
	<u>\$41 90</u>

\$41.90 was received in the month of June, 1903, and sent to Treasurer Brown (no Vouchers).

#### Recapitulation.

Dues received for the year 1903-04 and advance payment 1904-05 to May 1st ..	\$1,549 00
Received dues advance payment May 1st to May 12th .....	156 00
Received from Committee on Arrangements Chicago .....	511 19
Received from Boldt (Randolph County) ..	3 00
	<u>\$2,219 19</u>
Cash sent Brown to May 12th .....	\$2,180 19
Previous transfers June 1903 .....	41 90
	<u>\$2,222 09</u>
	2,219 19

Amount uncredited on Register ..... 2 90

Examined and found correct,

O. B. Will,  
L. J. Harvey,  
J. A. Sullivan.

Auditing Committee.

I further report that applications were made, approved by the Council and charters issued to the following component societies:

Edgar, Lee, Shelby, Christian, Cumberland, Crawford, Effingham, Logan, Mason Clinton, Clark, Jasper, Wayne, Putnam, Brown, Menard, Madison, Washington, Coles, Piatt, Saline, Iroquoise-Ford.

The charter of the Fox River Valley Medical Association for Kane county was returned. A new one was issued upon the approval of the Council to the Fox River Valley Medical Association for Kane and McHenry counties.

I beg further to report that I have just received a complete card index system, not only for the use of your secretary, but also for the local secretaries. The major part of the cost of which was borne by our President Black.

I beg further to report that I have supplied all component societies with the necessary blanks for making their annual reports. Many of the secretaries have made very full and complete reports of the legal practitioners in their counties. I believe this work will be very much facilitated by the use of the card index system.

The committee on scientific work responded to the call of the President, met in Chicago and formulated plans for the program. The sectional officers have found it impossible to strictly comply with the rules laid down by the committee as regards numbers.

Respectfully submitted,

E. W. Weis, Secretary.

It was moved by Ensign, seconded and carried, that this Society extend to the State Board of Health an invitation for the said Board to prepare such matter as may be of interest to the medical public from time to time, for publication in the Journal, as there may be space for it.

Delegate Stowell offered the following resolution, which, on motion, was carried.

**RESOLVED:** The Illinois State Medical Society, in annual session at Bloomington, hears with deep regret the serious illness of the son of our brother, Dr. Geo. N. Kreider, and wishes to express its earnest hope for his speedy recovery.

On motion, the House then adjourned until Wednesday, 2 P. M.

Wednesday, May 18th, 2 P. M., the House of Delegates was called to order by President Black

The Secretary called the roll to which 33 members answered present, a quorum.

The minutes of the previous meeting were read and approved.

W. O. Ensign read the Annual Report and Recommendations of the Council.

It was moved and seconded that said report be received and adopted. Carried. Said report is as follows:

#### Annual Report of the Council to the House of Delegates of the Illinois State Medical Society.

As this report very naturally stands as an introductory one to an entirely new association of duties, responsibilities and methods laid upon the Council, it may be very appropriately expected that it should largely partake of detail as to the fulfillment of such requirements in accordance with the law.

To take up these varied, multiple and often intricate duties, in many instances without any established precedent for guidance, and to discharge them with entire satisfaction, even to your Councilors themselves, has been a task of too great a magnitude to justify a reasonable hope of its accomplishment, within the brief period of a single year, with that completeness which could leave nothing further to be desired.

Nevertheless the Council has by no means been idle or negligent of its responsibilities, and it herewith offers a summary of its efforts to comply with the requirements and instruc-



tions of the law, and with some confidence that it can announce at least a fair amount of progress made during the year just closed, in this its first annual report under such altered provisions.

There have been five meetings of the Council held during the period named, not including that for organization near the close of the annual meeting of the State Society in 1903, or already held or to be held at the annual meeting now in session.

At the preliminary meeting, a chairman and a clerk were duly chosen and the relative terms of office of the Councilors were determined by lot, resulting as has been shown in the columns of each issue of the Journal of the Society during the past year.

The first general meeting of the Council was called at Chicago on May 20th, 1903, and subsequently such meetings were held quarterly on the first Thursdays in July, October, January and April following, either at Chicago or Bloomington.

The completion of the reports of the former Judicial Council and their deposit with the Secretary of the State Medical Society was accomplished, and the thanks of the Council on behalf of the Society extended to Dr. J. F. Percy, for his efficient services as clerk of such Council.

The change necessary to make the charter correspond with the new constitution was promptly acted upon. Dr. Geo. N. Kreider was continued as editor of the Journal and an assistant, as an advertising agent, was named. After some experience which was not as fruitful of good results as it was thought might have been secured, such latter arrangement was discontinued. A temporary committee, later made permanent, on the management of the Journal was selected, consisting of Councilors Black, Harris and Will. The bond of the Treasurer was fixed at \$2,000 for the current year and \$50 given him for his services, and the salary of the Secretary for a like period, after continued consideration was made \$350, \$200 having been previously granted him for clerical assistance. Two thousand copies of the new constitution and by-laws were ordered, at a cost of \$7.50 per thousand. The seal of 1902 was adopted as the official seal of the society under the new law.

As many of you are aware, at the last annual meeting, a special committee of the House of Delegates, with very brief opportunity for consideration, had quite successfully apportioned the State into nine councilor districts, practically numbered from north to south, and together embracing the entire one hundred and two counties of the State. For these separate districts and for the work performed and progress made therein, it is provided that the respective Councilors shall each report to you for his own territory.

For the assistance and guidance of the Councilors in their work, Doctors McCormack and Simmons, of the Committee on Medical Organization of the American Medical Association, were present by invitation, at the quarter-

ly meeting in July, 1903, and very freely and instructively discussed the plan of that Association for such organization throughout the various States of the Union, for the benefit of similar efforts in this State; and were voted the hearty thanks of the Council for their presence and the valuable suggestions and advice afforded.

Thus far the Council has not found it necessary to avail itself of the authority given it to formulate any rules governing either expenditures or its own actions. Further experience, however, may serve to show their future desirability.

No questions of discipline of members or appeals, save one or two of the latter, too late for consideration, before the annual meeting, have arisen during the year to add to its labors or to mar the existing harmony within the State organization or its component societies.

A few requests for the interpretation of portions of the law of 1903, or advice as to methods of procedure under its provisions, have been met and the decisions or advice of the Council, or its members, acquiesced in with little or no reluctance.

The matter of a card index system of registering membership has been carefully considered and an effort steadily made toward its complete introduction.

While no serious questions of the rights and standing of members have been presented, it has doubtless been the experience of nearly every District Councilor that, especially in the organization of new societies, or in the resurrection of long time dormant old ones, one or two conditions have been found to exist, which are worthy of your consideration.

First: In a formerly unorganized county, a physician interested in medical society work, in the absence of such privileges nearer his home, has, for a considerable period, allied himself with the organization of another county, where he has become a valued member and acquired an acquaintance and interest with which he is loath to part, and from which organization a separation is equally objectionable to, if not actually resented, by his associates.

Second: In a few instances at least and, doubtless in the absence of a full conception of the advantages of that complete membership which at the same time allies him with the higher organization, an individual has sought association with the local society only. While the law as it now stands is radical and inflexible, it would appear that for a brief period at least some latitude should be given in each case, with no little confidence that the former condition would in most instances properly adjust itself in due season, and that the latter, having afforded an opportunity for acquiring an interest in the work and a better knowledge of the advantages of a complete membership, the applicant would instinctively fall into line with his fellows and thus his full membership be eventually secured.

The Committee of Arrangements of the last annual meeting, on presenting a report showing

a surplus above expenses, called in question the right of the State Society to claim such funds, and requested the opinion of the Council as to their proper disposal.

It would appear that the law of 1902, which very plainly and fully designates the duties of the Committee of Arrangements, and thus concludes the subject: "After paying the legitimate expenses of the session, it shall cover any surplus into the general treasury." has been substituted in that of 1903 by a section that is comparatively indefinite and entirely omits any reference to the subject of a surplus.

Confident that the law under which such committee had been discharging its duties still applied to it and, being aware that it had been the almost unalterable custom of the Society for many years at least, to receive such surplus, it was held: "That the Committee of Arrangements acted under the law of 1902;" and that it is the sense of the Council "that the State Medical Society, being also guided by precedent, expects to receive any surplus that may exist; and further that the Society does not assume any liability for a deficit."

While such a decision was then founded on both the law and precedent in the case, at this time it could rest only on precedent, or perhaps as we may say in the absence of law, on custom. Hence, it would seem desirable that, at this session, there should be created some specific provision clearly defining the matter in accordance with the wishes of the Society.

A very ample and complete record for the use of the Secretary in registering membership and keeping accounts with component societies has been secured, and authority has been given that officer to purchase blanks and stationery to the value of \$20 for the reports of local medical societies; and, in order to encourage the work of organization, some liberty was given, to a temporary extent, in issuing the Journal to prospective members, that they might thereby become better acquainted with its character and value.

In entering upon the discharge of its duties, the Council found 34 counties, or one-third of the entire number, yet unorganized or chartered as component branches of the State Society. Of those thus unaffiliated, the following 23 have since received charters in due form:

Brown, Christian, Clark, Clinton, Coles, Crawford, Cumberland, Edgar, Effingham, Jasper, Lee, Logan, Madison, Mason, Menard, Platt, Putnam, Saline, Shelby, Washington, Wayne, Iroquois—Ford.

Owing to the intimate geographical relation of a twenty-fourth county, Dupage, to Cook, on request, it was permitted to affiliate as a branch of the Chicago Medical Society for the latter county.

The counties of Kane and McHenry, of their own choice, were reorganized together as a component society for such counties, and granted a new charter in exchange for that issued previously; while Iroquois and Ford have united into a bi-county organization. Thus a total of 24 counties have been organized, during the year

just passed, into 21 separate and one bi-county societies and one has united with an already existing society; constituting a sum total of 92 in the State now in affiliation; while there yet remain ten counties, viz:

Boone, Franklin, Hamilton, Hardin, Jefferson, Lawrence, Monroe, Moultrie, Randolph and Woodford not thus allied with the State Society.

The question of organization or readjustment of district societies has been very properly postponed during the past year for the important reason that it was believed that, the briefly considered arrangement of dividing the State into Councilor Districts a year since, after more experience, might prove to require some changes to further the interests and efforts of medical organization throughout the State; and that, should that work have been accomplished before such changes had been made and the respective district boundaries more permanently established, more or less revision would have been sooner or later required, thus producing grounds for some complaint if not much undesirable friction.

Again, as the District Society is, in a great measure, intended to be based upon the component societies in its territory, it would seem to be further essential that the latter should be first provided for and their organization completed, on which to build the former. The Council therefore presents to you at this time some suggested changes in the composition of the various districts, which it believes would further such organization, and recommends their adoption. (See diagram accompanying this report.) This plan not only proposes to change existing district lines and numbers to some extent but provides two additional councilors for the district which embraces the city of Chicago, a change that would also necessitate a corresponding modification of the constitution.

As the law specifies no date limits to such end, it would appear desirable that the bonds of the proper fiscal year should be clearly determined, and its close fixed some days in advance of the annual meeting, since to await the opening of such meeting must in a great measure render concluding financial reports somewhat hastily prepared and liable to be incomplete or otherwise imperfect.

The annual report of the Committee on Legislation of 1903, left in the hands of the Council at the close of the meeting last year, after some modification, was ordered published in accordance with the instructions given by the House of Delegates.

The subject of medical defense has received considerable attention and the following recommendations are herewith presented, after due approval by the Council of the report of a special committee for its consideration: "That the State Society take up the question of medical defense; that a committee of five members be appointed by the House of Delegates to be known as the Medico-Legal Committee; that two members of this committee be appointed from Chicago and three from the State at large; that the members of said society be assessed



\$1 each; and, that the amount so collected shall be set aside by the council and shall be known as the medical defense fund and be under the charge and control of the Medico-Legal Committee."

A matter of interest, yet not sufficiently well known among component societies, is the fact that the editor of the Journal has been instructed to supply secretaries of such societies stationery with appropriate heading at cost price.

The elimination of any provision for the annual election of vice-presidents from the constitution of 1902, and the substitution of the chairmen of the various district societies instead, was followed by a like provision continued in the law of 1903, however, without the clause determining by lot the order of precedent of such officers; but, owing to the fact that existing district societies, although duly chartered by the State Society under the law of 1902, have not yet been readjusted as Councilor District Societies as named in the new law for reasons already presented, has given rise to diverse opinions as to the lawful existence of any vice-presidents at this time. Without stopping here to discuss such legal question, it might be well to inquire if the present law should not be so modified as to more nearly and closely express the will or sentiment of the Society in relation to the matter of vice-presidents.

Constant efforts on the part of the Council have been made, throughout the year just passed, to remove and avoid any and all sources of justification for friction or sensitiveness between the State Board of Health and the Council, and the following report in substance, of a special committee of the latter, was duly adopted:

"Believing that a cordial relationship between the Illinois State Medical Society and the State Board of Health could and should be made mutually helpful to all parties immediately concerned, as well as to the entire profession and the people of the State; and that through the columns of the Society's Journal, each and all might be made familiar with the important transactions and future plans of such Board; to that end the committee would venture to suggest that if concise summaries of its proceedings were to be from time to time prepared, especially of such matters as at least might appear to be of the most interest and value to the medical profession and the public, and supplied to the editorial office of the Journal for publication, it was confident that such would find a place in its columns in so far as space could be spared, in full or in part, for their admission.

It is believed that the present law of the society can be greatly enhanced, in both convenience and value to its members, by a thoroughly prepared analytical index or digest of the constitution and by-laws, issued in connection therewith, and it is therefore recommended that a special committee of three members of the Society be appointed, by the House of Delegates, to prepare such an index to be published as an appendix to future editions of

the constitution and by-laws. Inasmuch as the present president has already prepared, with much pains and effort, such a digest for the use of himself as presiding officer and the Society, at its present session, it is further recommended that Dr. Black be named as chairman of such special committee.

The Committee on Public Policy, having met at Bloomington, Ill., on the 16th day of May, 1904, pursuant to a call previously issued; after the consideration of several suggestions as to desirable changes in the law, voted that, inasmuch as the Council was prepared to present to the House of Delegates the various points approved at such meeting, the committee would make no other report at this time.

The following proposed changes in the present law, also approved and recommended by the Council, are accordingly herewith presented:

1st. Art. VI, Sec. 3, Constitution (page 6, edition 1903) to add to such section the words **before the same shall become effective.**

2nd. Chap. VI, Sec. 2 By-Laws (page 16, edition 1903) to substitute for the first "the" in the fourth line of the section, the word **its**, and to add to the last line of the same section, the words **of the Society.**

3rd. Chap. IX, Sec. 4, By-Laws (page 23, edition 1903) to substitute the word **may** for the word "shall" in the eighth line of such section.

4th. Chap. X, Sec. 3, By-Laws (page 25, edition 1903) to substitute the word **Council** for the words "House of Delegates" in the fifth line of the section.

The first two alterations proposed are believed to be in the interest of a clearer interpretation of the law; the third is introduced in order to exchange a mandatory provision for one leaving the necessity for calling a preliminary meeting to the discretion of the Committee on Public Policy, since the House of Delegates, as now constituted, is authorized to meet in advance of the general meeting, (see Chapter V, Section 1, By-Laws, page 13), and is therefore competent to consider most of the questions for which such preliminary meeting was formerly assembled; and the fourth is intended to correct an oversight made in adopting the Constitution and By-Laws of 1903, by which correction the power that grants a charter is more properly given the authority to revoke the same.

#### **The Journal.**

It is needless to expect that, in the conduct of a journal of any kind or character, there will be no criticisms or complaints as to real or fancied imperfections or irregularities. How much more, therefore, are the same conditions likely to occur in relation to a publication conducted in the interests of a particular profession. However many and undesirable, especially if without just cause, such may appear to be, yet they may be said to be in no slight degree something of an index of the general interest taken in the columns of a publication.

In most instances during the year such criticisms, on examination, have been shown to be wholly or largely unfounded, the matter has



been satisfactorily explained, or the declared grounds of complaint have been unexpectedly claimed to exist, when a sincere effort had been really made to accomplish just what it was assumed or implied had not been undertaken.

At the beginning of the year the Journal entered upon a new era in its existence by becoming the official publication of the Chicago Medical Society. This arrangement placed new and greater responsibilities upon it and materially increased the labor of the editor and printer. These transactions have since formed an important part of the contents of that publication. Many members have expressed their high appreciation of the value of the local society proceedings published, a feature that becomes of more and more interest and importance with each succeeding year. The details relative to its publication in the past and the prospective improvements desirable in the future need not be here enumerated, but that its steady growth in value and influence is in evidence can not be successfully denied, while the growing amount of advertising received, notwithstanding an increase of rates has been made therefor, points clearly to its extended importance and value as an advertising medium, and to its certain success in such direction.

There have been about 4,500 copies issued monthly during the year, at a cost of about \$1 per copy.

The expenses have been as follows:

Printing.....	\$3,193 26
Postage.....	227 31
Advertising commissions.....	133 88
Stenographer.....	225 91
Editor's salary.....	600 00
Editorial office expenses.....	80 00

Total..... \$4,460 36

The Committee on Publication of the Journal reports to the Council a more minute estimate of its actual cost, which it states has been \$4,246.49, and that the receipts from advertising have reached \$2,214.22, leaving \$2,031.27 as the amount necessary to have been otherwise provided for, or \$468.73 less than the amount, viz: \$2,500, set as the limit for such purpose, by the House of Delegates, a year since.

The year to come promises much for this Society's publication, and will demand enlarged facilities and extended pages, therefore it must inevitably call for an increased outlay, but such greater expense will no doubt be fully or largely compensated for by a correspondingly enlarged income from its advertising department.

Its growth in the past has been steady and substantial, and the prospects for its future development are unlimited and most promising. Its field of usefulness is an unbounding one and already heartily recognized by the members of the medical profession of our State, to whom it is a source of great interest and helpfulness. May its value and influence continue to increase with its years.

#### Finances.

The haste with which the present Constitution and By-Laws were adopted a year since, afforded little time or opportunity to many

members for a thorough consideration of the possible changes thereby likely to result, especially as to financial conditions and, although a special committee of the House of Delegates was assigned the duty of making recommendations in relation to such questions, it was scarcely to be expected that its members could have had sufficient time during a single brief sitting of but a few moments only, as then granted it, to have foreseen or made provision for all the possible contingencies liable to later occur.

The establishment of the annual dues at \$1.50 for the ensuing year, as the source of a large part of the Society's revenue, on the one hand, and on the other, the beginning of the new year with a deficit, the shrinkage of local society membership whenever each component organization should be called upon for its per capita of such dues, the increased expenses of the eleven Councilors, and especially so of the nine assigned to districts with their enlarged duties in the discharge of the full requirements of the new law, as well as the introduction of a card index system of registration, all to very greatly enhance the amount of expenses, have appeared to leave little grounds for a just expectation otherwise than that the close of the current year would find the Society not without considerable indebtedness, which expectation has not proven to have been unfounded.

In accordance with the duties of the Council, the accounts of the Secretary and Treasurer have been duly audited by a special committee and found to be correct.

There is shown to have been received by the Secretary and properly paid over to the Treasurer, \$2,769.59, while \$4,635.47 has been received by the latter from other sources, making the total sum of receipts \$7,405.06. There have been approved by the Council and paid out by the Treasurer bills to the amount of \$8,208.94, leaving a balance of \$803.88 unpaid at the close of the year, shown as follows:

Total amount of disbursements.....	\$8,208 94
Treasurer received from dues..	\$890 68
Checks returned....	8 00
Chicago Medical Society.....	1,500 00
Subscriptions .....	21 00
Secretary .....	2,222 09
Advertising .....	2,215 79
Secretary .....	547 50

Total receipts..... \$7,405 06

Total amount of deficit.....\$ 803 88

Amount deficit of 1903..... 144 32

Amount deficit of 1904.....\$ 659 56

#### Property.

The following invoice of property on hand has been prepared of items collected from all known sources of its existence and for the first time in the history of the Society such is herewith submitted:

In the hands of the Secretary—

1 seal—cut, cost about.....	\$ 2 00
1 card cabinet, cost about.....	19 00
1 register, cost about.....	10 75

1 register book, cost about.....	2 50
2000 Constitutions and By-Laws	15 00
1 set (incomplete) bound volumes transactions, value.....	—
200 copies duplicate, transactions, value.....	—
Total in hands of Secretary.....	\$49 25
In the hands of the Treasurer—	
Stamps, cost.....	\$ 2 60
Stationery, cost.....	3 00
Card Ledger, cost.....	2 00
Old registers, value.....	—
Total in hands of Treasurer.....	\$ 7 60
In the hands of the Editor—	
2 seal—cuts, cost about.....	\$ 7 00
1 map cut, cost about.....	10 00
30 (more or less) cuts, half tones, etc., value.....	—
300 (more or less) copies Journal issues, value.....	—
Total in hands of Editor.....	\$17 00
In the hands of the former Secretary—	
1 set Society's transactions (less 1855) value.....	—

Total property found, cost or value...\$73 85

Some years since the Society constituted Dr. D. W. Graham a special committee to secure, if possible, a complete set of its own transactions. Such set is now complete save the issue for the year 1855, which he has thus far been unable to obtain. But two copies of such number are at present known to be in existence, viz: one in the Newberry Library of Chicago and one in other hands, neither of which can be secured at the present time.

#### In Conclusion.

The duties of a Councilor under the present law constitute so many and so varied responsibilities, as to render the office a burden and one not to be desired by an active and busy member of the profession.

After an experience under both methods made use of by this Society, it would appear no difficult matter to be convinced that a purely judicial body composed of members of extended experience in the Society, holding no other office in the organization, or no position under political appointment, should alone constitute the Council, and that the Councilor's duties should not include the work of local medical organization, which might be more appropriately placed in the hands of an especially constituted committee, or body, or even an individual organizer, charged with the duty of looking after the Societies and their interests as to memberships, professional organization and effort throughout the State.

The State Society is now of so large proportions, as to membership and work undertaken, that it would appear to be but the part of wisdom to distribute the official duties to be performed rather than to concentrate them in the hands of a few, which imposes upon an individual member an amount of labor that might more properly and satisfactorily be borne by

a number. The duties of the Councilor, as now arranged, partake of both judicial and executive character, an association of functions that, under most circumstances and conditions, is far better avoided. The suggestion of the President as to a State organizer, whose services might relieve the Council of its duties along such line, is worthy of your careful consideration in this connection.

Whenever the time shall have arrived that all the local medical organizations of Illinois shall have been completed, as contemplated under the standard plan of the American Medical Association, which plan has been practically adopted by this State, but a small part of the work to be done will have been accomplished.

A double task will yet remain to be performed in keeping such component societies infused with a vigorous vitality, and active sources of interest and inspiration to the profession in their localities, and thus in helpful touch with the State organization.

That such can be done is possible, that such should be done is without question, that it will be done is yet a problem to be solved. The field is a broad one, and the desired results can only be secured by united, earnest and persistent effort.

Wm. O. Ensign,  
Chairman Council.

It was moved by G. W. Webster that a vote of thanks be tendered the Council for its very efficient services rendered the past year. Carried.

H. C. Fairbrother presented his bill of \$47.00 for actual traveling expenses as Councilor. It was moved by M. L. Marcy and seconded by J. H. Stowell that same be paid. Carried.

Moved by Ensign and seconded that Section 2 of Article IX be amended by adding after the word "President" the words "Vice-Presidents;" also to eliminate the sentence on page 8 same section, "The Presidents of the Councilor District Societies shall be the Vice-Presidents." Also to change any other article or chapter as may be necessary to correspond therewith. Carried.

Moved by Ensign and seconded that Section 3 of Article VI be amended by adding the following words: "before the same shall become effective." Carried.

L. R. Ryan submitted amendment to Article V after sentence (a) "shall be for two years."

On motion the same was declared lost.

Moved by Ensign and seconded that in Section 2, Chapter VIII, page 20, the words "at the annual session" in 7th and 8th lines be stricken out; that the next following word "of" be changed to "to" and the words "House of Delegates," 8th line be changed to "Council;" that the words "House of Delegates," 11th and 12th lines be changed to "Council." Carried.

Chairman Ryan of special committee submitted the following resolution, which upon motion was declared adopted.

Whereas, The value of perfect sight and hearing is not fully appreciated by educators,



and neglect of the delicate organs of vision and hearing often leads to disease of these structures, therefore be it

Resolved, That it is the sense of the Illinois State Medical Society that measures be taken by boards of health and boards of education and school authorities, and when possible legislation be secured looking to the examination of the eyes and ears of all school children, that disease in its incipency may be discovered and corrected.

L. R. Ryan,  
A. L. Adams,  
Norval H. Pierce,  
Committee.

Chairman O. B. Will of special committee to present recommendations as were contained in President Black's message to the House.

Moved by Campbell and seconded that it be received and adopted as a whole. Carried.

Said report is as follows:  
To the House of Delegates, Illinois State Medical Society:

Your committee, to whom were referred the recommendations and suggestions contained in the President's address to your body, beg to report as follows:

As to the basis for appointment of delegates to the A. M. A. we advise the adoption of a resolution making the proportion of such delegates to harmonize with the demands of our society's numerical membership at present in good standing.

The suggestion with respect to surplus funds in the hands of local committees of arrangement having been subsequently reported by the Judicial Council, and acted upon by your body, needs no further consideration.

With reference to the matter of keeping your delegation to the National body full as to number, and providing for report from it to the State Society, we recommend the adoption of a rule requiring the appointing power to choose only those members who will distinctly obligate themselves to go and remain in attendance during the whole of the sessions of the National House, and report through their self-selected chairman the points of essential interest to this body.

In obedience to the suggestion respecting the services of the distinguished gentleman concerned we propose for your adoption, the following:

Whereas, The chief organizer for the A. M. A., Dr. J. N. McCormack, of Kentucky, has generously given of his time and energy in aiding the local Councilors of this State in their work, therefore be it

Resolved, That the Illinois State Medical Society hereby tenders its thanks to Dr. McCormack for his valuable influence and aid in furthering the cause of organization in this State, and assure him of the hearty esteem with which his services, suggestions and admonitions have been received.

With respect to the suggested advisability of having or employing a State organizer separate and apart from the District Councilors,

we suggest that such advisability and practicability be left to the discretion and determination of the Councilor Board, with power to act.

With reference to the President's intimation relative to the duplication, or sliding-scale, so to speak, method of Presidential succession, we recommend that the question be placed in the hands of a suitable committee for consideration and report at the next annual meeting, particularly since it involves a constitutional change of possibly greater significance than is at once apparent.

As to special committees and their advisability particularly on "State Institutions," "Medical Schools," "State Medicine and Hygiene," and "Medical Defense," as suggested, we are of the opinion that the subject should be referred for further consideration before action is taken, in order that the relation of the work of such committees to the sections may be fully determined, in the event that such authorization is deemed advisable.

As to the constitution, and special prescription as to duties of the Legislative Committee, as hinted at in the President's address, we can only say that we are not sufficiently advised to assume to make any explicit recommendations.

With respect to the question of the character of advertisements to be admitted to the columns of the Society's Journal, we recommend that the determination of the advisability or non-advisability of such insertions be left to the direct management of the Journal, with advice and consent of the Councilor Board, in accordance with the spirit of the principles of ethics as formulated by the National Body.

In conclusion; the changes recommended to clear up ambiguities in the constitution and by-laws having already been acted upon in connection with the report of the Councilor's Chairman, there seems no need for further consideration.

Respectfully submitted,  
O. B. Will,  
F. P. Norbury,  
R. B. Preble.

It was moved and carried that the chair appoint a committee of three to confer with a similar one of the State Dental Society in any matter of mutual interest.

The chair read a communication from Henry E. Tuley, relative to the Mississippi Valley Medical Association.

Moved that the chair appoint two delegates to that Association. Carried.

The following resolutions were offered by Campbell:

Resolved, That a special committee of three on tuberculosis be created with J. W. Pettit, of Ottawa, as chairman, with power to appoint his associates. Which upon motion was carried.

The following resolution was presented and upon motion was carried:

Whereas, The term of office of C. B. Johnson, of Champaign, as member of the State Board of Health expires in December of the present year; be it



Resolved, That we endorse his action as member of the Board and recommend his re-appointment.

Adjourned to meet tomorrow morning at 8:30 o'clock.

Meeting of the House of Delegates, May 19, 8:30 A. M., with President Black in the Chair.

The roll call showed a quorum present.

The Chair announced the members of the special committee to confer with the State Dental Association as follows: R. B. Preble, Chicago; A. L. Adams, Jacksonville; E. Mammen, Bloomington.

The Chair also announced the following delegates with power to select their own alternates to the Mississippi Valley Medical Association: J. R. Penington, Chicago; O. B. Will, Peoria.

The first order of business is the election of officers.

The first office to be filled being that of President, nominations are in order. William E. Quine was placed in nomination by J. W. Pettit, and E. Mammen by J. Whitefield Smith. Both were seconded.

It was moved and carried that the nominations be closed.

The Chair declared as tellers of the election J. H. Stowell and B. B. Griffith.

The tellers announced that Quine received thirty-one votes and Mammen six, whereupon the Chair declared William E. Quine President Elect of the Illinois State Medical Society.

First Vice-President, H. C. Mitchell was placed in nomination by J. T. MacAnally.

It was moved and carried that nominations be closed.

It was moved and carried that the Secretary cast the ballot for the House of Delegates.

For First Vice-President the Secretary announced the ballot cast for H. C. Mitchell, whereupon the Chair declared H. C. Mitchell elected First Vice-President.

For Second Vice-President the name of J. F. Percy was placed in nomination by Delegate Dodson.

It was moved and carried that the nominations be closed, and that the Secretary cast the ballot for Second Vice-President.

The Secretary reported the ballot cast for J. F. Percy. The Chair declared him elected Second Vice-President.

The next office to be filled was that of Secretary. J. H. Stowell placed the name of Edmund W. Weis in nomination.

It was moved and carried that nominations be closed.

It was moved and carried that the President cast the ballot for the House of Delegates for Secretary.

The President announced the ballot cast for Edmund W. Weis and declared him elected.

For Treasurer the name of E. J. Brown was placed in nomination by W. O. Ensign.

It was moved and carried that the Secretary cast the ballot for Treasurer. The Secretary reported the ballot cast for E. J. Brown and the Chair declared him Treasurer.

Owing to the redistricting of the State into Councilor Districts great confusion was created

as to which of the Councilors should hold their office. Whereupon the Chair ordered that there be an election of Councilors in every Councilor District except No. 3.

Nominations being in order, J. H. Stealy, of Freeport, was placed in nomination for district No. 1 by W. O. Ensign. There being no further nominations the Secretary was instructed to cast the ballot. J. H. Stealy was declared Councilor-elect of District No. 1.

W. O. Ensign, of Rutland, was placed in nomination for Councilor of District No. 2, and there being no further nominations the Secretary was instructed to cast the ballot, and the Chair declared him elected.

J. F. Percy, of Galesburg, and O. B. Will, of Peoria, were placed in nomination for Councilor of District No. 4.

The tellers announced the result of the ballot of which Will received twenty-six and Percy ten votes.

The Chair declared O. B. Will Councilor of District No. 4.

J. Whitefield Smith, of Bloomington, was placed in nomination for Councilor of District No. 5. There being no further nominations it was moved and carried that the Secretary cast the ballot. So cast.

The Chair declared J. Whitefield Smith Councilor of District No. 5.

The name of Carl E. Black was placed in nomination for Councilor of District No. 6.

It was moved and carried that the Secretary cast the ballot. So cast. M. L. Harris declared Carl E. Black Councilor of District No. 6.

E. E. Fyke, of Centralia, was placed in nomination for Councilor of District No. 7.

It was moved and carried that the Secretary cast the ballot for E. E. Fyke. So cast.

The Chair declared him Councilor of District No. 7.

The name of W. K. Newcomb was placed in nomination for Councilor of District No. 8.

It was moved and carried that the Secretary cast the ballot. So cast, and the Chair declared W. K. Newcomb Councilor of District No. 8.

J. T. McAnally, Carbondale, was placed in nomination for Councilor of District No. 9.

It was moved and carried that the Secretary cast the ballot. So cast, and the Chair declared him elected.

The next order of business was the appointment of a Committee on Medical Legislation.

Frank Billings, Chicago, was placed in nomination for the chairman of the Committee on Medical Legislation. It was moved and carried that the nominations be closed, and that the Secretary cast the ballot.

Frank Billings was declared elected chairman of the Committee on Medical Legislation.

J. W. Pettit and Carl E. Black were placed in nomination as members of the Committee on Medical Legislation. It was moved and carried that the nominations be closed and that the Secretary cast the ballot. They were declared elected.

The name of J. W. Pettit was placed in nomination as chairman of the Committee on Public Policy.

It was moved and carried that the Secretary cast the ballot, and the Chair declared J. W. Pettit chairman-elect of the Committee on Public Policy.

It was moved and carried that the chairman J. W. Pettit, have power to select the other members of his committee. (J. W. Pettit has selected as associate members on the Committee on Public Policy, Charles L. Mix, Chicago, and J. F. Percy, Galesburg.)

The next order of business was the election of delegates to the American Medical Association, of which three were to be elected.

The following names were placed in nomination: J. W. Pettit, G. W. Webster, H. N. Moyer, Carl E. Black, and D. W. Graham.

It was moved and carried that on the first ballot the three having the highest number of votes be declared elected. The tellers announced the result of the vote as follows:

Carl E. Black, twenty-one; G. W. Webster, eighteen; Frank P. Norbury, seventeen; J. W. Pettit, sixteen; D. W. Graham, fourteen; and H. N. Moyer, ten.

The following the Chair declared elected as delegates to the A. M. A.: Carl E. Black, G. W. Webster, F. P. Norbury.

The following were placed in nomination for the office of alternates to the delegates to the A. M. A.: J. W. Pettit, D. W. Graham, H. M. Moyer, M. L. Marcy, C. S. Plummer, D. L. Jewett, F. C. Vandervort, and W. S. Holliday.

It was moved and carried that the nominations be closed. It was moved and carried that the Secretary cast the ballot for alternates, and the members mentioned were declared elected alternates to the A. M. A.

It was moved and carried that the Secretary arrange the list of alternates in the order named.

The next order of business being the place of meeting of the Society for the next year.

L. Ryan invited the Society to meet in Galesburg. B. B. Griffith invited the Society to meet at Springfield and J. F. Myers extended a very hearty invitation to meet in Rock Island. Nominations were declared closed, and the tellers announced the result of the vote as follows:

Rock Island, twenty-one votes; Springfield, two, and Galesburg, four.

The Chair here announced the other two members of the committee on Analytical Index of our Constitution and By-Laws, W. E. Quine and E. W. Weis.

Special Committee on Reed monument, by its chairman, F. P. Norbury reports as follows:

**To the House of Delegates, Illinois State Medical Society.**

Your Committee, in recognition of the great scientific worth and the value to humanity of the work of the late Major Walter Reed, of the Medical Department, U. S. Army, and believing that the spirit of service, which prompt-

ed him so valiantly to pursue the subjugation of disease in Cuba, under such heroic self-sacrificing conditions and adverse conditions of his own health, should be commemorated by the profession of this country as a perpetual reminder to the great public in general, and our profession in particular, that in the conquests of disease by the Army Surgeon, the noble virtues of duty and of service truly rendered to country, home and to the individual, is a service, as worthy of commendation, as that rendered by any other department of the military service.

To further disseminate knowledge regarding the great work done by Major Reed and to interest the profession of Illinois in the monument proposed to commemorate this service, your Committee would respectfully suggest the appointment of a Committee by the President to be known as the Walter Reed Monument Committee, granting them power to interest the profession of this State, through the Secretaries of County Societies soliciting funds for this purpose.

That this Committee should have the privilege of electing its own Treasurer, who will receipt direct to Secretaries of local Societies and who will transmit to Dr. W. W. Keene, of Philadelphia, Chairman of the National Walter Reed Monument Committee, the funds collected, taking his receipt.

Frank P. Norbury,  
Geo. W. Webster,  
J. F. Percy,  
J. T. McAnally,  
F. X. Walls,  
Committee.

It was moved that same be adopted. Carried.

The Chair appointed the following committee to take charge: F. P. Norbury, G. W. Webster, F. X. Walls, J. F. Percy and J. T. McAnally.

It was moved by Harris and seconded that a committee of five on Medical Defense proceed to get an expression from the component societies, and as soon as a majority agree to the proposition to go on with the work. The same was amended that January 1st next be the date when the work should begin. Said amendment was declared lost.

The original motion was carried.

It was moved by Newcomb that the Committee on Medical Defense be the nine Councilors. This motion was offered as a substitute for the one just carried. Lost.

It was moved by Weis and seconded by Marcy that the annual per capita tax be \$1.50. Carried.

The Chair announced the following as a Committee on Medical Defense: W. A. Brown, H. N. Moyer, G. N. Kreider, E. J. Brown and H. C. Mitchell.

There being no further business it was moved and carried to adjourn sine die.

E. W. Weis,  
Secretary.



## ILLINOIS STATE MEDICAL SOCIETY.

## Minutes of Section one.

## First Day—Morning Session.

The section was called to order in the Unitarian Church by the Chairman, Dr. J. W. Pettit, at 9:15 A. M. The Chairman called attention to the rule regarding the time limit allowed for the reading of papers and each discussion; the former to consume not more than twenty minutes, and the latter not more than five minutes for each discussion, unless the section decide otherwise.

The first paper was read by Dr. E. R. Larned, of Chicago on **Vaccination; How to do it; What to do; What to Expect.**

The discussion was opened by Dr. Wm. E. Quine, of Chicago, and closed by the essayist.

Dr. James E. Coleman, of Canton, followed with a paper on **The Relation of Medicine to Surgery.**

The paper was discussed by Dr. H. N. Moyer, of Chicago.

The next paper was read by Dr. E. H. Butterfield, of Ottawa, entitled, **Myocarditis Occurring in Elderly People; With Special Reference to Treatment.**

The discussion was opened by Dr. A. W. Baer, of Chicago, and continued by Dr. Robt. H. Babcock, and Dr. Hugh T. Patrick, both of Chicago.

Dr. E. J. Brown, of Decatur, contributed a paper on **Leukemia; With Special Consideration of its X-Ray Treatment.**

Dr. A. W. Baer, of Chicago, opened the discussion, which was continued by Dr. H. N. Moyer and closed by the essayist.

Dr. Frank P. Norbury, of Jacksonville, read a paper entitled **Mental Disorders of Neuras-thenia.**

The discussion of this paper was participated in by Drs. L. Harrison Mettler, Hugh T. Patrick and H. N. Moyer, all of Chicago.

Dr. Robert H. Babcock, of Chicago, addressed the section on **Tuberculosis in Young Children; With Report of Two Non-Tuberculous, But Suspected, Cases That Illustrate Some of the Points of Differential Diagnosis.**

Dr. L. Harrison Mettler, of Chicago, concluded with a paper entitled **Multiple Neuritis**, which was discussed by Dr. F. P. Norbury.

On motion the section adjourned until 2 P. M.

## First Day—Afternoon Session.

The section reconvened at 2 P. M., and was called to order by the Chairman, Dr. Pettit.

The first paper of the afternoon was read by Dr. Hugh T. Patrick, of Chicago, entitled, **Some Disorders of Sleep.**

The discussion was opened by Dr. H. N. Moyer and closed by the essayist.

Dr. J. Whitefield Smith, of Bloomington, followed with a paper entitled, **Defects of Vision and Hearing in the Public Schools.**

The discussion was opened by Dr. N. H. Pierce, of Chicago, continued by Drs. H. N. Moyer and Jos. C. Beck, of Chicago, and closed by the essayist.

The next paper was read by Dr. Thos. H. Bath, of Bloomington, entitled **Mosquitoes and Malaria.**

The discussion was opened by Dr. Wm. E. Quine, of Chicago, and closed by Dr. Bath.

Dr. F. A. Guthrie, of LaSalle, read a paper entitled, **Pancreatitis; With Report of a Case**, after which the society, on motion, adjourned until Wednesday at 9 A. M.

## Second Day—Morning Session.

The section was called to order at 9 A. M. by Chairman Pettit.

After a few announcements by Dr. Mammen, chairman of the Local Committee of Arrangements, Dr. Pettit announced that the special order of business for the morning was the reading of the papers comprising the symposium on tuberculosis, after which the society would go into executive session to discuss ways and means.

The following papers constituted the symposium.

**Mortality From Tuberculosis in Illinois for the years 1902 and 1903.** By Dr. Geo. W. Webster, Chicago.

**Factors Causing Tuberculosis and Aiding its Spread. Suggestions for its Prevention.** By Chas. L. Mix, M. D., Chicago.

**Diagnosis of Pulmonary Tuberculosis.** By Frank Billings, M. D., Chicago.

**The Treatment of Pulmonary Tuberculosis.** By Robt. B. Preble, M. D., Chicago.

**The Annual Economic Loss to Illinois From Tuberculosis.** By Homer M. Thomas, M. D., Chicago.

**The Duty of the State in Restricting Tuberculosis.** By H. N. Moyer, M. D., Chicago.

On motion of Dr. Pettit, the association resolved itself into a committee of the whole, with the view to discussing ways and means for the prosecution of this work, and that the laity be invited to participate in the discussion. Carried.

The discussion on these papers was opened by Dr. J. W. Pettit, and continued by Dr. J. A. Egan, Springfield, General Dickey, Bloomington and Dr. Thos. H. Bath, Bloomington.

Dr. Ethan Allan Gray, of Chicago, moved that the association recommend to the House of Delegates the appointment of a committee on Tuberculosis, whose duty shall be to adopt and carry out measures for the prevention and spread of tuberculosis. Seconded. Carried.

Adjourned.

## Second Day—Afternoon session.

The section reconvened at 2 P. M., and was called to order by the Chairman, Dr. Pettit.

Dr. Arthur R. Elliott, of Chicago, opened the program with a paper entitled **Bacteriuria; With Special Reference to Colon-Bacilluria.**

Dr. N. S. Davis, of Chicago, followed with a paper on **Relationship of Excretion of Common Salt to Dropsy and Renal Disease.**

Dr. Arnold C. Klebs, of Chicago, contributed a paper on **The Pneumonia Problem.**



The paper was discussed by Dr. Davis, of Chicago, and by the essayist, in closing.

The next paper was contributed by Dr. Chas. T. Whalen, of Chicago, entitled, **The Treatment of Pneumonia.**

The discussion on this paper was opened by Dr. Ethan Allen Gray, of Chicago, and closed by Dr. Whalen.

**Brain and Sinus Diseases, Resulting From Purulent Otitis Media**, was the title of a paper contributed by Dr. A. H. Andrews, of Chicago.

The paper was discussed by Dr. I. N. Danforth, Chicago.

**Radio-Activity**, was the title of a paper read by Dr. J. C. Sullivan, of Cairo.

Dr. George T. Palmer, of Chicago, followed with a paper entitled **The Mineral Springs of Illinois; Their Therapeutic Application.**

Dr. I. N. Danforth, of Chicago, discussed the paper.

Dr. E. P. Cook, of Mendota, read a paper on **Lumbar Puncture; Its Value in Diagnosis and Treatment.**

This paper was discussed by Dr. E. C. Franing, of Galesburg; John F. Sloan, of Peoria, and, in closing, by Dr. Cook.

Dr. M. H. Mack, of Chicago, followed with a paper on **Atonic Dilations of the Stomach; With Report of Cases; Also Methods of Treatment.**

The paper was discussed by Dr. J. C. Cook, of Chicago.

At this juncture the Chair appointed the following Nominating Committee, with instructions to report immediately after the call to order of the next day's morning session of the section:

Dr. John C. Cook, of Chicago, Chairman;  
Dr. T. J. McAnally, of Carbondale, and Dr. Burke, of LaSalle.

Adjourned.

### Third Day—Morning Session.

The section was called to order at 9 A. M. by Dr. Wm. E. Quine, in the absence of the Chairman, Dr. Pettit.

The report of the Nominating Committee was called for, and said committee reported as follows:

Chairman: Dr. M. S. Marcy, of Peoria.

Secretary: Dr. Fred. C. Zapffe, of Chicago.

On motion, the report of the committee was adopted.

There being no further business before the section an adjournment was taken sine die.

J. W. Pettit, Chairman.

E. B. Montgomery, Secretary.

### Minutes of Section Two.

Chairman, Dr. Emerson M. Sutton, of Peoria.  
Secretary, Dr. Rudolph W. Holmes, of Chicago.

### First Session, May 17, 1904.

The Section was called to order by the Chairman at 9:30 A. M.

Dr. Willis O. Nance, of Chicago, read a paper on **Acute Infantile Middle Ear Inflammations.**

Dr. Norval H. Pierce, of Chicago, followed with a paper entitled **Remarks on and Reports of Additional Cases of Sigmoid Sinus Thrombosis from Middle Ear Suppuration.**

The discussion on these two papers was opened by Dr. Tivnen, and continued by Drs. Pierce, Ballenger, Eisendrath, and the discussion closed by the essayists.

Dr. H. W. Chapman, of White Hall, read a paper entitled **A Case of Mastoid Operation Embracing Unusual Features.**

Dr. R. R. Campbell of Chicago, read a paper on **The Differential Diagnosis Between Pseudo-Membranous Angina of Syphilis, and Angina of Diphtheria.**

This paper was discussed by Drs. Beck, Ryan, Ballenger, and the discussion closed by Dr. Campbell.

Dr. William H. Wilder, of Chicago, read a paper on **Infectious Ulcers of the Cornea.**

Dr. J. H. Taylor, of Bloomington, presented **Some Clinical Facts in Eye and Ear Work.**

These papers were discussed by Drs. Nance, Beck, Marcy, and, in closing, by the essayists.

Dr. J. L. Wiggins, of East St. Louis, read a paper on **Gall Stones.**

Dr. D. N. Eisendrath, of Chicago, followed with a paper entitled **Some Interesting Cases of Subcutaneous Injuries of the Abdominal Walls and Viscera**, which was discussed by Drs. Wiggins, Ochsner, Lewis, Pennington, Gunn, and the discussion closed by the essayist.

Adjourned.

### Second Session, May 17, 1904.

The Section was called to order by the Chairman at 2 P. M.

Dr. S. C. Stremmel, of Macomb, read a paper on **Appendicitis**, which was discussed by Drs. Ochsner, Wiggins and Eisendrath.

Dr. H. H. Whitten, of Peoria, read a paper on **The Medical Treatment of Eclampsia**, which was discussed by Drs. Brown, Van Horne, Holmes, and Bacon.

Dr. M. L. Harris, of Chicago, read a paper on **Cholecystitis**, which was discussed by Drs. Mammen, Ries, Van Horne, and the discussion closed by the essayist.

Dr. A. E. Halstead, of Chicago, read a paper entitled **Report of a Case of Subcecal Hernia.**

Dr. J. R. Pennington, of Chicago, read a paper on **The Office Treatment of Fissure in Ano**, which was discussed by Dr. Christy, and, in closing, by Dr. Pennington.

Dr. J. F. Percy, of Galesburg, read a paper entitled **Report of a Case of Intestinal Obstruction, with Remarks as to the Treatment Followed.**

Discussed by Dr. Ochsner.

Dr. A. F. Stewart, of Oneida, read a paper on **Indications for Surgical Intervention in Gastric Ulcer**, which was discussed by Drs. Ochsner and Christy.

Adjourned.

### Third Session, May 18, 1904.

The section was called to order by the Chairman at 9:15 A. M.

Dr. Henry F. Lewis, of Chicago, read a paper on **Some Practical Points in the Diagnosis and Treatment of Placenta Previa**, which was discussed by Drs. Bacon, De Lee, Roach, Holmes, and, in closing, by the essayist.

At this juncture Dr. A. J. Ochsner, of Chicago, delivered the Address of Section Two, se-

lecting for his subject **The Surgical Treatment of Gall-Bladder Diseases.**

Adjourned.

#### Fourth Session, May 18, 1904.

The Section was called to order by the Chairman at 2:15 P. M.

#### Symposium on Carcinoma.

Papers were read as follows:

(a) **Etiology and Pathology of Carcinoma**, by Dr. Gustav Futterer, of Chicago.

(b) **Carcinoma of the Gastro-Intestinal Tract**, by Dr. J. B. Murphy, of Chicago.

(c) **The Ultimate Results of Operation for Cancer of the Breast**, by David W. Graham, of Chicago.

(d) **Cancer of the Uterus**, by Dr. E. Mammen, of Bloomington.

(e) **The Geographical Disposition and Medical Treatment of Cancer**, by Dr. W. C. Bowers, of Decatur.

The discussion on this symposium was opened by Dr. Bevan, and continued by Drs. Turck, Percy, Wagner, Pusey, Goldspohn, and the discussion closed by Dr. Murphy.

#### Symposium on Eclampsia.

Papers were presented as follows:

**Pathology of Eclampsia**, by Dr. Frank W. Lynch, of Chicago.

**Operative Delivery in Eclampsia**, by Dr. Charles S. Bacon, of Chicago.

The discussion was opened by Dr. De Lee, and continued by Drs. Lobdell, Lewis, Newcomb, Holmes, Chapman, Maley, and the discussion closed by the essayists.

Adjourned.

#### Fifth Session, May 19, 1904.

The Section was called to order at 9:15 A. M., by the Chairman.

Dr. J. H. Franklin, of Spring Valley, read a paper on **Empyema**, which was discussed by Drs. Wagner, Goldspohn, Sutton, and the discussion closed by the essayist.

Dr. Carl Wagner, of Chicago, read a paper entitled **The Porro Operation: Carl Wagner's Modification**, which was discussed by Dr. Holmes, and in closing, by the essayist.

At this juncture the Chair appointed as a Nominating Committee for nominating officers for the Section, Drs. Montgomery, Graham and Connelly.

This Committee subsequently reported, as Chairman of the Section for the ensuing year, Dr. Geo. L. Eyster, of Rock Island, and Dr. Wm. H. Wilder, of Chicago, Secretary.

On motion, these gentlemen were duly elected officers of the Section for the ensuing year.

Dr. E. B. Montgomery, of Quincy, then read a paper on **Symphiseotomy in Persistent Mento-Posterior (Face) Presentation, with a Report of a Case**, which was discussed by Drs. Lewis and Goldspohn.

Dr. Palmer Findley, of Chicago, presented a paper on **The Value of Systematic Blood Examinations in Gynecology.**

Discussed by Drs. Fairbrother, Andrews, and in closing, by the essayist.

Dr. Albert Goldspohn, of Chicago, read a paper entitled **Why Digital Exploration Through**

**the Internal Inguinal Rings Should be made in Conjunction with Every Alexander Operation.**

Discussed by Dr. Findley, and, in closing, by the essayist.

Dr. George W. Newton, of Chicago, read a paper on **Cystic Tumors of the Ovary.**

Dr. E. Wyllys Andrews, of Chicago, presented **A Phantom or Model for Illustrating Herniotomy and Suture Work on the Abdominal Parietes.**

Discussed by Drs. Lewis, Goldspohn, Uran, and the discussion closed by Dr. Andrews.

Dr. Denslow Lewis, of Chicago, read a paper entitled **Immediate Abdominal Sections**, which was discussed by Drs. Maley and Goodell, and the discussion closed by the essayist.

On motion of Dr. Henry F. Lewis, the thanks of the Section were extended to the officers for their excellent work during the meeting.

Adjourned *sine die*.

## Marriages and Deaths.

### MARRIAGES.

Chas. H. Fegers, M. D., to Miss Florence Searles, both of McHenry, June 8.

Wilbert Petit Gillman to Miss Marriet May Glover, both of Chicago, May 24.

Wm. O. Sheller, M. D., Big Rock, to Miss Emma Frost, of Chicago, May 13.

### DEATHS.

Crow, James T., Carrollton. A graduate of the St. Louis University in 1854, died at the Insane Hospital in Jacksonville, about the 10th of June, aged 75. Dr. Crow had practiced medicine 38 years in Carrollton and was greatly beloved by the entire population of that city.

Cole, W. C., Jacksonville. Assistant physician at the Central Hospital for the Insane, died June 28th, aged 64, from uraemic poisoning. Dr. Cole graduated from the Louisville Medical College, Kentucky, in 1872, and had practiced in Morgan County since 1873. He was twice president of the Morgan County Medical Society and was a member of the State Medical Society.

Davis, Nathan Smith, Chicago. Died June 15, aged 87. For extended notice of Dr. Davis' life see article by Dr. John H. Hollister in our other columns.

Johnston, Elmer A., Danville, June 3, aged 36. Dr. Johnston died at the home of his parents in Champaign of cancer of the face.

Lawless, James, Chicago, June 10, aged 60.

Dr. Cooper of Galesburg will locate in Kilbourne, Mason County.

Dr. H. O. Bades of Ashland Boulevard has returned from a six months trip in California.

Dr. Edwin C. Williams of 31 Washington st., Chicago, has returned to the city after an absence of two months in Europe.



# The Illinois Medical Journal.

The Official Organ of the State Medical Society.

JULY, 1904.

NEXT ANNUAL SESSION, ROCK ISLAND, MAY 16, 17, 18, 1905.

## OFFICERS:

PRESIDENT—W. E. QUINE, Chicago.

FIRST VICE PRESIDENT—H. C. MITCHELL, Carbondale.

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The Pres. and Sec'y, Ex-Officio.

The figures before the names  
of the Councilors refer to the  
Councilor Districts.

### The Council.

(1) J. H. Stealy, Freeport.

(2) W. O. Ensign, Rutland.

(3) M. L. Harris, Chicago.

(4) O. B. Will, Peoria.

(5) J. Whitefield Smith, Bloom-  
ington.

(6) C. E. Black, Jacksonville.

(7) E. E. Fyke, Centralia.

(8) W. K. Newcomb, Cham-  
paign.

(9) J. T. McAnally, Carbondale.

## MEDICAL AND SURGICAL EXHIBITS AT THE LOUISIANA PURCHASE EXPOSITION.

During the week of June 20-25 we embraced the opportunity to attend the magnificent Exposition at St. Louis. Very little mention has been made apparently in professional Journals as yet of the noteworthy Medical and Surgical Exhibits which are to be found in the various buildings and departments of the Fair. In order that our readers may be enabled to find these Exhibits without unnecessary expenditure of time it occurs to us that it would be a good idea to mention such of them as came to our notice in the columns of the Journal. Unfortunately the limits of our columns will not permit an extended catalogue of all that is to be found. We will therefore only mention the location and character of them.

First—The exhibit of the Illinois State Board of Health in the Education Section of Hygiene of the Department of Social Economy, is situated in the northwestern portion of the Palace of Education. It clearly indicates the character of sanitary and educational work being done by the Board. The charts demonstrating the work done in the field of vital statistics, exhibited at the Bloomington meeting of the State Society, are shown in part and would have been exhibited in their entirety had it been possible to secure sufficient wall space.

In one cabinet may be found the blank forms used by the Board in its regular work; forms of death certificates, for recording births, for the classification of the causes of death, forms of authorization for the prosecution of violators of medical laws, blank certificates or licenses for physicians,



midwives and for those of other schools of practice; instructions for the shipment of dead bodies and blank certificates for embalmers and all of the many forms and blanks indicative of the great scope and breadth of the Board's work.

A glass case contains the reports of the Sanitary Investigation of the Illinois river and its tributaries, 1899, and the investigation of the Illinois, Mississippi and Missouri rivers, 1903; and the reports on Medical Education, 1880-1903, these books being displayed in uniform size and binding.

A second cabinet is devoted to mortuary statistics shown in the form of charts, indicating the work done by the Board in this direction in 1902 and 1903.

The wall space is given over to maps, charts and photographs. One of these is a large State map showing the total deaths of each county, the area, population, deaths from tuberculosis and pneumonia, the statistical matter being presented for both 1902 and 1903. Two large charts, one showing the mortality from tuberculosis and pneumonia by months of the year, for 1903, and the other showing the mortality from the same disease by the ages of the dead for the same year.

A collection of photographs of small-pox cases, collected by the Board during the epidemics of this disease in 1902 and 1903, is encased in a frame 3½ by 5 feet in dimensions.

The various publications of the Board on infectious and contagious diseases, are liberally supplied on a desk in the exhibit, and are intended for popular distribution.

Circulars and publications on which the Board is now engaged, will be added to the exhibit from time to time during the progress of the Exposition.

Second—In the Government Building the

Marine Hospital and Public Health Service has arranged a noteworthy exhibit of the work of that department. The most striking feature is a modern operating room showing a surgeon, his assistants and attending nurses represented in wax operating on a patient, also represented in wax, and surrounded by the furniture and paraphernalia as found in a thoroughly equipped Institution.

Third—Also in the Government Building is to be found a model of a modern battleship showing the sick bay and operating room which are models of economy in space.

Fourth—The German Medical and Surgical Exhibit in the Palace of Education occupies eight or ten rooms and contains a display of the results of the latest medical research and experiment. Only one of these we will mention. With characteristic thoroughness the Germans have collected the various plants, the pollen of which is the cause of hay-fever. They then show the serum which has been devised for the prevention and cure of this disease. The various ways in which epidemic and infectious diseases are fought by inoculation are shown by guinea-pigs which have been inoculated and killed at certain stages. There are also wax casts and photographs of a number of the most important diseases. In other rooms are wax casts of various difficult operations such as gastro-enterostomy, extirpation of the larynx for cancer, the radical operation for disease of the mastoid and cancer of the tonsil. There are also numerous wet specimens beautifully preserved which were mounted by Dr. Kaiserling, the discoverer of the fluid which bears his name. In a separate room there is a magnificent display of Ruhmkorff coils of the largest size and Roentgen tubes of the best known makers. An auditorium large enough to seat more

than one hundred is provided with a stereopticon for illustrating the lectures which are given from time to time by various distinguished visitors from the German Universities. We were privileged to hear Saturday, June 25, Geheimrath Professor Doctor Albert Hoffa of the University of Berlin deliver a lecture in this room on Coxa Vara beautifully illustrated by thin sections of the femur and X-Ray photographs of the disease thrown upon the screen by the stereopticon.

Fifth—In Sections 16-26 of the Liberal Arts Building, the German Imperial Board of Health has installed a very complete Exposition of the methods used in protecting and purifying the water supply and disposing of the sewage of the various cities of the Empire, also photographs and statistics regarding prevalence, the prevention and cure of tuberculosis according to modern researches and methods. This exhibition particularly will be interesting to Illinois practitioners at the present time.

Sixth—In the Phillipine Exhibit which covers an area of 43 acres will be found sanitary maps of the city of Manila and illustrations of the Nipa shacks occupied by the natives in which so many thousands of the inhabitants dwell and which presents, as we understand, such a serious problem to the sanitarians who are endeavoring to improve the conditions of health in our new possessions.

The various tribes inhabiting the Phillipine Islands, the Cliff Dwellers of Arizona, the hairy Ainos of Japan, and other foreigners present a rare chance to study Ethnology.

Were there nothing else excepting these exhibits we could advise our medical readers to make the journey to the Exposition to study them, but of course there is very much

else to entertain and amuse. Owing to the vast buildings and great distances to be traveled we would advise the liberal use of the wheel chairs in getting about.

The grounds and buildings are kept in perfect sanitary condition and this with other object lessons which we have not mentioned must have a beneficial influence upon the health of the whole country.

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#### COXA VARA.

This disease which was the subject of a lecture delivered by Prof. Hoffa recently in the auditorium of the German Educational Exhibit at the Worlds' Fair as mentioned elsewhere, is of such importance that we give from memory a short abstract of his remarks.

Coxa Vara was first mentioned about the middle of the 19th Century, but little attention was paid to the matter by the profession and it was forgotten until its re-discovery about 1889. While the certainty of the existence of the disease was first determined by post mortem examination the introduction of the Roentgen ray has placed it on a firm foundation as a pathological entity. It is often impossible to determine its existence without the aid of the X-Ray photograph. This disease which is an abnormal relation of the neck of the femur to the shaft, has undoubtedly been often confounded with tuberculosis of the hip joint, many of the symptoms of which latter disease are usually present. Some authorities think that Coxa Vara is always caused by a fracture of the neck of the femur, but from this opinion Professor Hoffa stoutly dissents, although he states that fracture of the neck of the femur usually results in a Coxa Vara and also believes that fractures of the neck are much more common in children than has heretofore been believed. For this reason he thinks that all obscure injuries about the hip joint

should be examined by means of the X-Ray. There is usually considerable deformity in Coxa Vara and the neck of the femur instead of forming an obtuse angle with the shaft is often at a right angle to the shaft. The direction of the epiphyseal line in children, as shown by the X-Ray photograph, is another diagnostic point in the disease. By reason of the change in the relation of the neck of the bone to the shaft there is a characteristic deformity, which, while resembling ordinary tubercular disease is easily diagnosed when proper care is taken. It is also necessary to differentiate from arthritis deformans which has been found to be also much more frequent in the young than was believed before the advent of the X-Ray. Coxa Vara appears often to be a congenital condition and frequently is coincident with rachitic disease of the femur.

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**IN MEMORIUM PATRIS SOCIETATORUM.**

The news of the death of Dr. Nathan Smith Davis has been given to the world. At the close of a long and most eventful life this eminent man rests from his labor and his earnest prayer that he might "go home" has been answered.

When the unerring clock of time tolled the hour of his departure, his years were rounded to the full; his work was finished and he was waiting patiently for the summons.

This is not the time nor the place to attempt an adequate review of such a life. At a later date arrangements will be made for a *memorial service*, in which not only his city and his state but the medical profession of the nation at large will be represented, when fitting tributes will be paid to the memory of this gifted and beloved man.

And yet while the flowers are still fresh upon that new-made grave, it seems appro-

priate to pass in brief review an outline of this eventful life.

Born amidst the hardy sons of toil, his was a rich ancestral heritage. Cradled in a Christian home, the impress of those early environments was manifest through all the later years.

His student life was spent in the famed academy of Cazenovia, N. Y. At the early age of twenty years he received his medical diploma from the College of Physicians and Surgeons at Fairfield. For a brief period he practiced at Binghamton, but soon his ambition impelled him to a larger field, and in 1847 he had located in New York City. Very soon he was appointed demonstrator of Anatomy and Lecturer on Medical Jurisprudence in the New York College of Physicians and Surgeons.

In 1849 he accepted a call to a professorship in Rush Medical College in Chicago, and from that date, among all this people, his name has been a household word.

No one man of his city has ever written as many prescriptions as he, and no man probably ever will. No man of his city has visited the bedside of so many that were poor and sick and suffering, where there was no hope of reward save their gratitude, as he, and probably no man ever will.

This generous beneficence was not only manifest in the first years of his practice but after fifty-five years of continuous service for the helpless, but was just as conspicuous during the last years of his life as at the first.

In matters of pure disinterested benevolence, in the giving of himself to the needs of the poor, his life is without a parallel and probably will remain so.

But while thus closely related to his patients, and these embraced all classes of people, by common consent he has been the



leading organizer of medical institutions in this country. By common consent he has long been styled "The Father of the American Medical Association."

instruction, till then unknown upon this continent, but now universally adopted.

He was the president of the International Congress held at Washington, in 1887.



NATHAN SMITH DAVIS.

Half tone furnished by courtesy of the Journal A. M. A.

In the fulfillment of a long cherished purpose, with a few others, he threw his whole energies into the founding of a medical college whose leading purpose should be that of formulating a system of graded

As a guiding spirit in all matters medical he has received the highest honors whether national, state or civic, that it has been within the province of the profession to bestow.

As a writer, he was the author of a voluminous work on medical practice in which were embodied the results of a life-long experience.

He was the founder and first editor of the *Journal of the American Medical Association*. He also founded the *Medical Examiner* and gave largely of his time and means to its development.

By all odds, as the champion of total abstinence from the use of alcohol as a beverage, and in most cases as a medicine, he was the Nestor of the medical profession.

By his death, the Northwestern University loses its first formally appointed trustee, and to him is largely due the present affiliation of the Chicago Medical College with that institution.

In his home life, in his church life, and in all civic relations, that life has been ideal.

It remains for tongues that are eloquent and for pens that are facile, to render tributes so justly due to the memory of *Doctor Nathan Smith Davis*. J. H. Hollister.

#### BOOK NOTICE.

*Arteria Uterina Ovarica*, the Utero-ovarian artery of The Genital Vascular Circle, Anatomy and Physiology, with their Application in Diagnosis and Surgical Intervention. Byron Robinson, B. S., M. D., Chicago—E. H. Colegrave, Chicago, 1903.

This monograph, which according to the author is based upon fifteen years of experimental research and practical work as a gynecologist, has recently been issued in book-form and seems to cover an important part of female anatomy which had not previously been thoroughly considered. The work has been thoroughly done and is illustrated by one hundred and seventeen diagrams and plates. We can commend its reading to all those interested in this subject.

## Correspondence.

The Tent Colony for the Treatment of Tuberculosis.

OTTAWA, ILL., June 21, 1904.

It is apprehended that the greatest obstacle we will encounter in securing an appropriation for State Sanatoria will be the difficulty in convincing the public in general, and legislators in particular, that tuberculosis can be cured in this climate. The belief that certain attributes of the atmosphere, such as rarity, dryness, equable temperature, etc., etc., are necessary, has become so firmly established that it need not be surprising if we find it difficult to convert the skeptical to a contrary belief.

In anticipation of this obstacle, it is the opinion of those who have given the subject most attention that an object lesson, which shall demonstrate the improvement or cure of a few of these cases in this climate, will have greater weight than an argument based upon what has been done for a multitude of cases in other states. With this end in view, I have been induced to start a tent colony at Ottawa.

The site selected is ideal in every respect for the open air and dietetic treatment of tuberculosis. It is on a high bluff overlooking the city of Ottawa, the Illinois and Fox River Valleys, in the midst of some of the most beautiful scenery of this justly famous region. The water supply is excellent; drainage perfect; easily accessible by trolley cars; camp will be lighted by electricity; connected by telephone; milk supplied from dairy one-quarter mile distant; abundant supply of fresh eggs, fruits and vegetables in immediate vicinity. In fact everything to make tent life not only comfortable, but even luxurious. The tents will be large, and of the best material, thus insuring protection from the elements. Trained nurses and other help provided.

It is not intended to demonstrate how cheaply patients can be maintained, but how comfortably and well, therefore those of the better class need have no hesitancy about

making application for admission. In fact this is the class whom we are seeking to secure.

The expense to patients will be actual cost of maintenance, no charge being made for medical services. The service will be equal to that of a first class hospital. It is estimated that it will cost \$10 per week to maintain patients according to the standard which has been established. The cost of equipment is included in this estimate.

I have been much embarrassed by the report that has been published, stating that the cost will be about \$18 per month. For obvious reasons this is impossible. The statement did not originate with me.

In order to make the demonstration most effective in influencing the next legislature, it is desirable to commence immediately. Those interested in this work, will confer a great favor by assisting me in securing a few patients at once.

The success of the experiment will be fully reported from time to time through the usual channels. Physicians, the friends of patients, and others interested will be welcomed as visitors to the camp.

Inasmuch as my motives are not selfish, I ask the moral support of the profession in making this enterprise a success.

J. W. Pettit,

Chairman Committee on Tuberculosis,  
Illinois State Medical Society.

## State Items.

Dr. Norval H. Pierce of Chicago has gone to Europe.

Dr. Alex C. Wiener of Chicago has gone to Europe.

Dr. and Mrs. Ferd. C. Hotz of Chicago will spend the summer in Germany returning the first of October.

Dr. Sarah Hackett Stevenson who has been in the hospital at Battle Creek, Mich., for some months has recovered sufficiently to return to

Chicago. Her many friends will be pleased to hear of her progress towards recovery.

**The St. Bernard Hotel Dieu Hospital** of the Hospitaller Sisters of St. Joseph, Sixty-fourth street and Harvard avenue. The cornerstone of this hospital was laid Sunday, June 26, by Archbishop Quigley and a large body of assisting priests in the presence of twenty thousand persons. The hospital will cost more than \$200,000. It will be 220 feet in length with a depth of 120 feet, and will be five stories high surmounted by a dome of pure white marble. The front will be of white Georgia marble, and the side and rear walls of pressed brick. Three hundred patients can be accommodated.

### Chicago Medical Society Has Annual Meeting in Schiller Building—Has Growth of Membership.

Dr. John B. Murphy was elected president of the Chicago Medical society at the annual meeting in the Schiller building. Frank X. Walls was re-elected secretary and Dr. R. B. Preble, the outgoing president, Dr. M. L. Harris, Dr. A. D. Bevan, Dr. I. N. Danforth, and Dr. James H. Stowell were elected to the board of council.

Dr. Preble gave the annual president's address. He congratulated the society on its growth during the last year and prophesied that it soon would have enrolled every reputable physician in Cook county.

The secretary's report showed assets of the society to be over \$12,000, with no liabilities. The membership is 1,512, having increased this year 224.

**Colfax, McLean County**, a town of 1,200 inhabitants has been having great trouble over a scandal involving a prominent physician. The facts were brought out in the United States Circuit Court at Springfield recently by the trial of Byron Robertson of Colfax for taking from the mail a letter directed to Miss Hattie Waldo, the assistant postmaster at that place. The letter was ostensibly written by Dr. X, a physician, and was of such a compromising character that it caused much trouble in the community. It is understood that the affair had its root in trouble between Robertson and Dr. X. and when he received the letter he made it public to the great embarrassment of Miss Waldo. Dr. X. admitted writing the letter, but it was shown that Miss Waldo had never received it and was ignorant of its contents. The case was being fought out stubbornly and many witnesses, including two former postmasters at Colfax, and many prominent citizens, were upon the stand. It is pretty clearly understood that Robertson made the letter public to get even with Dr. X. who had exposed some of his former correspondence with a married woman at Colfax.

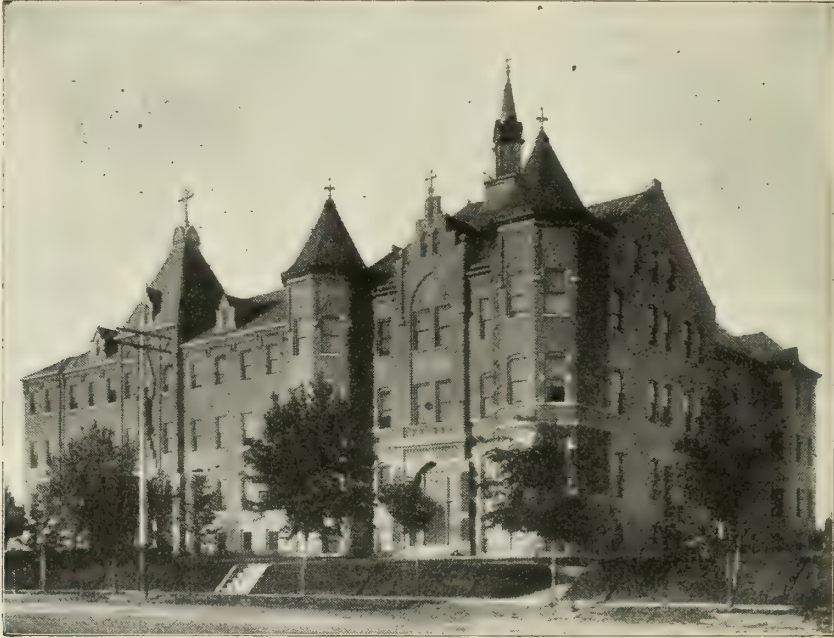
At the conclusion of the trial Robertson was given a six months sentence in jail. As a further result of the unfortunate affair Dr. X. was obliged to leave the town.



**St. Francis Hospital, Freeport.**

We present by the courtesy of Official Reporter, Dr. R. J. Burns, a cut of St. Francis Hospital, Freeport, which has been recently enlarged and rededicated by Arch-Bishop Quigley of Chicago.

The Daily Democrat of June 8, 1904, gives an extended account of the elaborate ceremonies attending that function. It also contains a description of the entire structure from which we learn that the hospital was first opened in 1890. It was then a small affair and accom-



**ST. FRANCIS HOSPITAL, FREEPORT.**

modated besides the sisters, a number of orphans. As has been the case in nearly every community blessed by the presence of the nursing sisterhood, there has been a rapid growth of the number seeking accommodation in the institution. Soon the orphans were provided with a separate building and within ten years the hospital was taxed to its utmost to accommodate the afflicted. The hospital now contains 100 beds and twenty-three sisters minister to their wants. The total value of the plant

is stated to be \$100,000, the last addition costing \$47,000. No mention is made in the Democrat of the valuable services rendered to the hospital and the community by the medical profession living and dead. This we are sure is an oversight which should be remedied for certainly without their valuable assistance freely rendered, these institutions would not be possible. It is nothing but justice to give them their due meed of praise on these public occasions.

## County and District Societies.

**FULTON COUNTY MEDICAL SOCIETY.**

Regular meetings are held the first Tuesday of May, July, October and December.  
Membership 43.

**Officers.**

President.....C. S. Scholes, Canton  
Secretary-Treasurer.....D. S. Ray, Cuba

The twenty-sixth annual meeting of the Fulton County Medical Society was held at Cuba, May 3, 1904.

Called to order at 1 p. m. by President Scholes.

Members present—Scholes, Strode, Robb, Coleman, Stoops, Cluts, Schallenberger, Ray, Rogers and Oren; visitors, Percy of Galesburg, Fleming of Ipava, and Clark of Fiatt.

Dr. Percy, secretary of the judicial council of the Illinois State Medical Society, gave an able address on the needs of organization of the medical profession and enumerated some of the difficulties encountered in perfecting such an organization. The following is but a very brief synopsis of only a few of the many good points presented.

Practical necessity of organization was aptly illustrated by reference to the futile efforts of the medical profession to secure recognition from the state legislature, while the farmers of his county who are organized readily secured the passage of a bill enabling them to sell their products in the city without paying for a license.

The members were reminded that the present method of affiliating with the state organization was not the workings of a clique or, in political parlance, of a machine, but the result of deliberations of the national and state organizations, had been widely discussed in the medical press and adopted at a regular meeting of our state society. It was adopted as the only satisfactory basis for the organization of the medical profession, is exceedingly successful, is becoming adjusted nicely and will eventually work out all right.

As to the question of irregulars, always get in the regulars first and then go out after those a little off in color, being charitable enough to remember that they may be as honest and honorable as you or I, but from position, circumstances, or environments do not consider ethical matters as we do, while if given an opportunity and properly encouraged would do better. The majority of them want to do right if given a chance. Agreements may be gotten up that are not objectionable to most of them, the most important point being that no member can belong to any other state medical society except the Illinois Medical Association. This was a wise provision adopted by the state society. It is breaking down the various elements that have always kept the medical men apart, resulting in a harmonious union in one state organization.

Among the little matters contributory to the success of county societies are the following:

Each county society should have printed stationery which is not only in line as a first class business proposition but also in keeping with the dignity and respect of the profession.

Every secretary should have a card index bearing the name of members in the county where and when graduated and the general standing in the profession. This for the purpose of keeping track of every member as to his location and character. A national directory under the supervision of the profession will be the outgrowth of this which is already being taken up by the state organizations.

A defense fund to defend the members against mal-practice suits is to be considered at no great distant day. In the city of Chicago where most of the physicians are protected by a similar fund one-third of the cases are nolle-prosed or given up as soon as it is discovered that the defendant has this protection thus relieving the physicians from a black mailing scheme that is increasing with a frightful rapidity all over the country, especially in the cities.

The heart of every county society is its secretary and no one is as a rule more mistreated. His inquiries for in-

formation or requests for contributions to the regular program are frequently ignored altogether or come in too late to be of any value, and his efforts to secure good attendance are usually fruitless. The most invariable answer to the question, "What is the greatest difficulty you have in perfecting a county society," is "apathy." The physicians do not take the interest in this matter that they should. Most every other profession or trade has a perfect organization in keeping with the age and if we maintain our dignity and respect and be in a position to do our duty to suffering mankind we must be in a position where we can exercise the first law of nature.

Invite intelligent laymen into your meetings. Let them know that these meetings are for other objects and purposes than the consideration of fee bills.

Quackery receives more support from the clergymen than from any other profession. Many of them, unintentionally give recommendations to preparations that are nothing else than inferior intoxicating drinks. These recommendations are printed in bold type and scattered over the land through the various advertising channels. Thus worthless if not harmful preparations are thrust upon the unsuspecting public by a profession that enjoys unlimited confidence and respect. The frequency of such instances may be accounted for in a great measure by overworked clergymen casting about for something to bring back the energy and health that they once possessed, accepting some of the many gratuitous propositions that they all are daily receiving and while under the condition of euphoria that the first few doses cause feel that courtesy demands and that the result justifies them in giving the firm a strong recommendation in return for their gratuitous medicine. It has been openly charged that certain prominent clergymen as well as statesmen receive regular contributions from firms who receive benefits of such recommendations. Get them to attend your meetings and point out to them the injustice that they are guilty of, many of them unintentionally so it is true, and great good will result. We want to work for the repeal of all laws permitting the practice of quackery substituting more perfect laws including renewal of license yearly with forfeiture clause if holder becomes itinerary.

To obtain these desirable conditions party politics must be lost sight of. It is of little importance to us whether a representative or judge is a democrat or republican so long as they do not split hairs in making the fine distinction or ruling that Osteopathy or Christian Science is practicing medicine in contradistinction to those who say it is not. Make the politician who favors quackery stay at home. Help the weak professional brother rather than kick him out and make a bushwhacker out of him.

Most of these conditions have been realized in some states. In Alabama for 38 years no state board of health or state medical officer has been appointed by the governor without first consulting the state medical society. In the way of legislation they have never asked for any-



thing but what they got it but have been very careful to ask for nothing but that which was for the good or benefit of the general public.

There are those who favor doing away with all medical laws. In New Zealand where such a condition exists perfect chaos reigns. Reputable men are growing less and less each year and are being crowded out by pure quackery which is supported by an ever gullable public. When one fad is proven false a new one is ready to take its place.

On motion of Dr. Coleman a vote of thanks was tendered Dr. Percy for his admirable address.

Minutes of previous meeting read and approved.

Dr. Shallenberger presented a paper on typhoid fever. Among the important points touched upon was the importance of an early diagnosis and sanitary measures also a plea for the establishment of a laboratory for bacteriological and microscopical examination that would give the active practitioner valuable information which time and facilities prevent him from securing.

Dr. Robb coincided with the author and advised the consideration of all cases with diurnal exacerbation of fever and diarrhoea with great suspicion and that where the fever in such cases does not break in 48 hours the great probabilities are that the case is one of typhoid fever. In all cases use care and disinfectants until we know they are not typhoid. The common house fly, water and milk are potent factors in the spread of the disease. In a large per cent of cases periodic chills occur which are attributed to absorption of some poison that effects the sympathetic nerves.

A general discussion was taken by all present and the author closed by cautioning against too much treatment, asserting that most cases would get well with good nursing and without any medicine.

Dr. C. L. Oren presented a good paper on Trachoma.

The president appointed Drs. Coleman, Oren and Robb to select the next meeting place. Their report in favor of Canton was adopted. The meeting to be held July 5th. The subject of making Canton the permanent meeting place for the society was favorably commented on by many present.

#### Collections.

	County Dues.	State Dues.	Total.
A. C. Cluts .....	\$4.00	\$1.50	\$5.50
W. E. Shallenberger..		1.50	1.50
F. C. Robb .....	1.00	1.50	2.50
W. S. Strode .....	2.00	1.50	3.50
J. E. Coleman .....	1.00	1.50	2.50
Totals .....	\$8.00	\$7.50	\$15.50

On motion Dr. S. A. Oren was made alternate to the Bloomington State meeting.

D. S. Ray, Secretary.

#### LOGAN COUNTY MEDICAL SOCIETY.

##### Officers.

President, J. L. Lowrie.....	Lincoln
First Vice-President, L. F. Curtis.....	Elkhart
Second Vice-President, Maskel Lee.....	Atlanta
Secretary, H. L. Oyler.....	Lincoln
Treasurer, W. H. Kirby.....	Chestnut
Membership	20.

The Logan County Medical Society held its regular June meeting in the City Council Chamber, City Hall, Lincoln, June 16, 1904, at 7:30 P. M., President J. L. Lowrie in the chair.

Members present: J. L. Lowrie, A. M. Sargent, C. C. Montgomery, C. E. Rembe, J. R. Barnett, H. S. Oyler of Lincoln and P. H. Oyler of Mt. Pulaski. Visitors: Dr. Rhodes of Lincoln, Dr. Williams of Hot Springs, Ark., Dr. King and Penning of Chicago, Ill.

Minutes of April meeting read and approved. Application for membership received from R. L. Frisbie of Lincoln, a graduate of the Marion Sims College of Medicine, class of 1894, C. C. Reed of Lincoln, graduate of the Rush Medical College, class of 1878.

H. L. Cosby of Lincoln, graduate of Rush Medical College, class of 1889.

All applications were favorably acted upon and same received into full membership.

The subject for the consideration of the society was **Pneumonia**. The subject being divided into three papers, pathology, diagnosis and treatment. The essayist taking the diagnosis was unable to be present.

H. S. Oyler of Lincoln read a paper on the **Pathology of Pneumonia** and presented pathological specimens to illustrate the different forms of the disease. A synopsis of the paper is as follows:

Pathology holds the same relation to the diseased body that physiology does to the normal; that chemistry does to all the sciences. To know a healthy body you must know physiology—to know disease—to understand medicine and surgery or to apply them you must know pathology.

Medicine was making but slow progress when Verchow began his work in the Dead House. The birth of his cellular pathology created a new science and put medicine and surgery upon a rational basis. It proved disease to be due to disturbances of cellular action and intercellular changes. The disturbance may be brought about by the introduction of new cells as bacteria into the tissues, by chronic action, etc., but they are the cause and not the products of the disease. The more we know of the working of cell life under normal and abnormal condition, enlarging our knowledge of pathology, the more rational and specific will be our treatment.

The inflammatory processes of the lung may be divided into three classes. 1st. Croupous or Acute Pneumonia—a primary disturbance. 2d. Catarrhal or Broncho Pneumonia, involving the parenchymatous or cellular structures and is generally secondary. 3d. Chronic or Interstitial Pneumonia involving the interstitial or intercellular structures and is a secondary disturbance.



In croupous pneumonia we have an acute inflammation of the lungs which has been attributed to several micro-organisms namely. The micrococcus lanceolatus of Frankel, the bacillus pneumoniae of Friedlander, the staphylococcus and streptococcus typhoid bacillus, diphtheria bacillus, influenza bacillus any of which will cause pneumonia under the proper conditions or any of which may be found in the respiratory tract without producing the disease. The cells are able to protect themselves from the micro-organism as long as they are functioning normally, but when their physiological function becomes pathological from any cause as irritation either chronic or from foreign particles or hyperaemia from exposure the micro-organisms become active and pneumonia develops. This suggests the reason for the larger per cent of pneumonia in our smokey cities over those of the rural districts.

The pathological changes in croupous pneumonia may be divided into three stages: engorgement, red hepatization and gray hepatization or resolution.

In engorgement or intense hyperaemia the blood vessels become dilated the blood current becomes slower, the lung assumes a dark red color, the lung is increased in sp. gr. elasticity decreased. On section it yields a frothy tenacious reddish liquid.

Red hepatization is marked by exudation of the blood serum and corpuscles into the air vesicles, this coagulates enclosing in its meshes the red and white blood cells. The lung is more solid increased in sp. gr., contains less air, is more friable. The cut surface shows little plugs of coagula protruding from the alveoli color is a dark reddish brown.

In gray hepatization the immigration of the leucocytes predominates in the alveoli the epithelium lining more swollen. The walls and contents have a more improved appearance. The fibrous material disintegrates, the red cells decolorize, the white cells undergo fatty degeneration. The sp. gr. is still greater than before as is also the density and friability and the surface on section has a grayish appearance as resolution continues the inflammatory products undergo fatty degeneration and are absorbed and expectorated. The epithelium cells of the alveolar walls and the blood vessels gradually resume the normal.

Broncho or parenchymatous pneumonia is an inflammation of the parenchymatous or cellular part of the lung. Is caused by irritation of any character affecting the bronchi. The post-mortem appearance of the lung presents many variations. The lung tissue contains a varying number of solid patches due either to collapse or inflammatory consolidation. The epithelium of the bronchi are inflamed and the walls thickened and containing a thick mucous. The collapsed part is depressed below the surface is of dark bluish color, tough and glistening. The pneumonic patch has the appearance of being raised and resembles gray hepatization but is firmer and drier. In resolution fatty changes take place and the contents of the alveoli are removed by expectoration and absorption the lung gradually resuming the normal.

Interstitial pneumonia is characterized by a gradual increase in the connective tissue which tends to obliterate the alveolar spaces. Is a secondary disturbance of some inflammation or persistent collapse. Is usually unilateral. The size of the lung is diminished is firm and greatly increased in sp. gr. On cut section the lung is hard, firm, shiny, dry and light in color. The openings of the blood vessels and bronchi are greatly dilated and gap open.

There is no resolution the lung continues to shrink and the cirrhosis may involve the whole side.

A. M. Sargent of Lincoln then presented the society with a very interesting paper on the **Treatment of Pneumonia**—a synopsis of which is as follows:

The constant and increasing prevalence of pneumonia and its growing mortality, is I deem a sufficient excuse for bringing so worn a subject before the society. Few diseases have so many opposite plans of treatment. From the time Laennec to the middle of the past century almost implicit confidence was placed in the combined use of blood letting, antimony and mercury. Those remedial agents have gradually been discarded and replaced by a supporting plan of treatment. A comparison of the mortality of past with those of modern times gives a higher rate for the present time, whether this is due to a change in the character of the disease, or to a less efficient treatment, or to a lessened resistive vitality, or to a greater diagnostic accumen of modern physicians I will not discuss.

When called upon to treat a case of pneumonia you should insist upon having two nurses, one for day and one for night. The room should be large with south front, all unnecessary furniture removed temperature kept between 65° and 75° F. and an abundance of fresh air. All friends should be excluded from the room. For the initial chill put patient between blankets surrounded by hot water bottles and give hot drinks. When the pleuritic pain is manifest hot or cold applications can be applied until relief is obtained. Sometimes a mustard draft or adhesive plaster will answer better. In some cases a hypodermic injection of morphine will be required. All local applications after pain is relieved are to be discontinued. No local application can influence the pneumonic process and may prevent sleep and rest. An initial dose of calomel followed by a saline will be of benefit. The buccal cavity should be cleaned several times a day with a solution of H(1) O(2). Frequent examination of the abdomen is imperative and upon appearance of tympany free catharsis with calomel followed by a saline should be given to remove all offending material. The food should be liquid, milk and bouillon answer admirably, when these disagree as shown by flatulency and diarrhoea, solid food can be substituted. A chop, steak or hard boiled egg and small piece of toast may be given. The pyrexia rarely needs attention. If it passes 105°F. then interference becomes necessary. The alcohol bath with cold application to the forehead will usually relieve if not the cold pack properly given will

reduce the fever without evil effects. The cough is often annoying and sometimes so constant that the patient cannot obtain rest. In this condition I have found that Dover's powder will lessen the frequency but if it fails then it is necessary to give morphine codeine or heroin. This latter remedy according to my experience is as disagreeable in its after effect as morphine. We are often required to choose between two evils, exhaustion upon the one hand, the depressing effect of opium upon the other.

Insomnia is to be combated by absolute quiet in the sick room and an occasional dose of trional.

The chief danger in pneumonia is from cardiac failure. Examination should be made at each visit. If both sounds are distinct the patient's condition is favorable. Cardiac failure presents itself in two ways. The first and most frequently met with is cardiac degeneration, the result of toxemia which affects principally the muscular fibres of the left heart. The other is mechanical in character and affects the right side of the heart. The management of these two conditions is different. The first occurs any time after the third day. The second occurs from the initial stroke to the period of crisis. A clinical picture of the first form. Patient is pale, face is bedewed with perspiration, extremities cold, respiration rapid shallow from 40 to 60 per minute, pulse rapid and weak. Auscultation shows that the heart sounds cannot be heard. Patient takes no notice of his surrounding. In this condition give strychnine, alcohol, strophanthus, digitalis, belladonna, oxygen, according to indications. Do not use strychnine with a sparing hand. The tenth of a grain followed by a twentieth hourly until all of the sound muscular fibres of the heart are aroused. The action of the strychnine should be aided by 1 to 2 oz. doses of whiskey or brandy repeated hourly. The quantity of alcohol to be limited only by the results. Let us study briefly the clinical picture of the second form of cardiac embarrassment. The patient is propped up in bed respirations are labored, he cries for air, face flushed, eyes congested, all his physical strength given to breathing. Inspiration shows heart's impact against the chest wall. Auscultation tells us that the left ventricle is acting powerfully. Pulse full and large but collapses immediately, showing a deficient supply of blood in left cavities. This condition does not call for heart stimulants, I think that a study of the physiological action of the salicylates upon the nutritive and functional circulation of the lungs will suggest its use for the prevention of this condition and after the condition is established, we have in venesection an heroic remedy to relieve the engorgement. While performing venesection your patient's breathing becomes easier, heart action less violent, pulse full and sustained. Now the effects of the bleeding can be maintained by the administration of the salicylates. The physician should remember that we make war upon disease only when it is necessary and not all the time as a matter of form

and only when called upon by distinct indications.

The discussion of the papers was entered into by most of the members and visitors.

J. L. Lowrie of Lincoln, delegate to the Illinois State Medical Society gave a very interesting report of the meeting held at Bloomington during May.

The Society then adjourned to meet August 18, 1904.

#### McLEAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Bloomington the first Thursday of each month. Membership 95.

##### Officers.

President.....F. C. Vandervort, Bloomington  
Vice President ..... A. L. Fox, Bloomington  
Secretary-Treasurer.....R. A. Noble, Bloomington  
Censors: C. M. Noble, J. E. Fenelon. C. E. Chapin

The McLean County Medical Society was called to order by the President, Dr. F. C. Vandervort, at 7:15, P. M.

Upon motion of Dr. Godfrey, Dr. J. W. Fulwiler was elected to act as Secretary *Pro Tem*, Kaeser being absent. The minutes of the last meeting were read and approved.

Dr. E. Mammen made a verbal report for the Committee on Arrangements for the State Society meeting, and asked to be allowed to present his report in writing at the next meeting, which was granted. His report showed that there would be about \$100.00 remaining after all bills were paid.

Dr. Welch reported progress from the Committee on the History and Biography of the Members of the McLean County Medical Society. He was authorized to have a typewritten copy made at the expense of the Society.

Dr. Mammen moved that a copy of the biography of each member be sent to such member or his nearest relative for correction, before same was presented by Committee for publication. So ordered.

The following letter from Dr. A. F. Kaeser was read and his resignation as Secretary-Treasurer was regretfully accepted.

May 24, 1904.

To the President and Members of the McLean County Medical Society.

I tender my resignation as Secretary-Treasurer of your organization. This duty, with which you have twice honored me, has been a pleasant one to perform.

I hope for the present to retain my membership with you, and wish to cordially thank all the members for their courteous treatment accorded me.

I am handing you a check for \$94.15 the balance due the Society. Explanatory to my successor, I would say that all the members who have paid \$2.50 since April 5, 1904 and who, are marked R \$1.50 in the Treasurer's account, he must yet remit the per capita to Dr. Weis.

Wishing the Society continued success, I remain,

Fraternally Yours,

A. F. Kaeser.

Dr. R. A. Noble was nominated for Secretary-Treasurer, and on motion of Dr. Yolton,



Secretary **Pro Tem** was instructed to cast the ballot for Noble to fill out the unexpired term of Dr. Kaeser as Secretary-Treasurer.

On motion of Dr. C. M. Noble, one-half of the balance accruing from the State Society meeting, was voted to the Business Men's Association for the purpose of promoting the work of the Health Committee of that Association; the balance of the money to be turned over to the Treasurer of the Society, for such disposal as the Society orders.

The following resolution was presented by Dr. Chapin:

"Inasmuch as the Sanitary Committee of the Business Men's Association is made up of members of this Society, and in as much as the work of this Committee belongs germanely in the field of this Society,

Resolved, That the Committee in question of the Business Men's Association be made likewise the Sanitary Committee of the McLean County Medical Society. This resolution to have effect for the year 1904."

Upon vote of the Society, the resolution was adopted.

The following resolution was presented by Dr. T. W. Bath:

Whereas, Dr. Kaeser has seen fit to change his location,

Resolved, That we, the members of the McLean County Medical Society, express by this resolution, our sincere appreciation of his efficient ability during his term as Secretary of this Society, especially his able executive management during the week of the State Medical meeting held in this City. And further,

Resolved, That we bid him Godspeed in his new field and commend him to his new community and colleagues as an efficient Physician and a courteous gentleman."

Resolution adopted and copy of same ordered spread on minutes of this Society and copy sent to Dr. Kaeser.

The following bills were allowed:

Nimrod Mace, Printing.....\$2.80  
A. Washburn & Sons, Flowers..... 7.25

Dr. F. C. Vandervort asked to be excused to fill an engagement and called Dr. Fox to the chair.

The following names were proposed for membership in the Society: E. M. Adams, Gridley; Ralph Fox, City; Chas. Schultz, Colfax; Ralph Pearce, W. A. Coss, Danvers; H. L. Howell, City.

There being no further business, Dr. C. E. Chapin was presented and read a very able paper on **Chronic Interstitial Nephritis**, reporting twelve cases which had been under his observation during the past two years.

Dr. Chapin called special attention to the ease and frequency with which this malady was overlooked and urged upon the members the importance of being always on guard for this disease. He called attention to the importance of early and frequent Urinalysis and pointed out the early diagnostic signs to be found

The discussion was general and the Doctor was heartily congratulated upon the able and

complete manner in which he presented the subject.

The meeting adjourned to meet the first Thursday in Sept., 1904.

#### ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

##### Officers.

President ..... L. H. A. Nickerson, Quincy  
First Vice Pres ..... John A. Koch, Quincy  
Second Vice Pres ..... J. M. Grimes, Camp Point  
Secretary ..... Geo. E. Rosenthal, Quincy  
Treasurer ..... R. J. Christie, Jr., Quincy  
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.  
Delegate State Society..E. B. Montgomery, Quincy

The June meeting of the Society was held in the Chamber of Commerce, June 13th, President Nickerson being in the chair.

Those present were: Drs. Nickerson, Ashton, Knap, Pfeifer, J. A. Koch, Knox, J. G. Williams, Christie, Jr., Gilliland, Sigsbee, Worley, H. J. Nichols, Shango and Vasen.

The secretary read some correspondence between the local health officer and the State Board of Health as to the validity of a certificate of death signed by an osteopath. The reply of the State Board was that only licensed physicians, coroners or midwives could issue such certificates.

President Nickerson opened a discussion on the **breach of ethics committed by members entering into consultation with osteopaths.**

A general discussion followed and the matter was referred to the committee on Legislation. On motion of Dr. Christie a committee consisting of Drs. Christie Jr., Ashton and J. A. Koch, was appointed to confer with the druggists for the purpose of eliminating private endorsement of proprietary patent medicines.

Dr. Knox reported a case of a young woman with a scarlet rash erroneously diagnosed as scarlet fever.

Dr. Christie Jr., reported that the case of gastro-enterostomy mentioned as recovered at last meeting was at the present time suffering from secondary contraction and was to be operated again, result to be reported later.

Dr. Pfeiffer presented a specimen and reported a case of self-diagnosed tape worm which proved to be an exfoliative colitis. The patient was apparently free from digestive disturbances but complained of nervousness as chief trouble, the latter symptom of three years standing.

Dr. Christie Jr., asked for opinions on the treatment of tape worm.

Dr. Nickerson favored turpentine in  $\frac{1}{2}$  to  $\frac{3}{4}$  doses. Dr. Koch uses Male Fern followed by magnesium sulphate. Dr. Shango reported a case in which  $\frac{3}{4}$  of Male Fern accomplished the desired result. Dr. Ashton reported success with Male Fern and Oil of Camella followed by large doses of turpentine and Castor Oil.

Dr. Gilliland stated that with the three varieties of Taenia, turpentine was usually efficient, recently however, he had used Peleterine. A mass made of pumpkin seed macerated, with an equal amount of sugar and a small quantity of chloroform, was favorably mentioned by him.



Dr. Knapp reported a case of exfoliative colitis following hysterectomy for multiple fibroids. Dr. Nickerson recommended the treatment of these cases by flushings and astringents.

Adjournment.

### SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held in Springfield the second Monday of each month at 8 p. m.  
Membership 73.

#### Officers.

President ..... B. B. Griffith, Springfield  
Vice President ..... S. E. Munson, Springfield  
Secretary-Treasurer ..... C. P. Colby, Springfield  
Directors, W. O. Langdon, R. D. Berry, C. R. Spicer

The Society was called to order at 8:30 P. M. by President B. B. Griffith; G. N. Kreider was appointed Secretary pro tem. There were eleven members present. The minutes were read and approved. Drs. Brittin, Nelson and Hagler, the committee appointed at the last meeting, submitted the following resolution on the death of Dr. Charles Kerr. After being read the resolution was adopted:

Whereas, It has pleased Almighty God to remove from the scenes of his earthly activities, our colleague, Dr. Charles Kerr, a worthy and respected physician of Springfield, and Sangamon County, and a charter member of this Society.

Resolved, that in the death of Dr. Kerr the profession has lost a worthy and honored member, and the city of Springfield, a prominent and public spirited citizen, and be it further

Resolved, That while we bow in humble submission to the Divine Will, the entire membership of the Sangamon County Medical Society express their sympathy and condolence, to the family and relatives of the deceased and be it further

Resolved, That a copy of these resolutions be spread upon our Minutes.

President Griffith reported that he had extended an invitation to the House of Delegates to have the State Medical Society hold its next annual meeting in Springfield but the Society had decided to go to Rock Island. Dr. Langdon moved that the next meeting be held in September. Carried. Miss Susan Merritt, who has been taking instruction in Medical gymnastics in Boston, was then introduced and explained the methods used to obtain results in deformities and various diseases by physical means under the direction of the family physician. This proved to be an interesting feature of the meeting and Miss Merritt was obliged to answer many questions as to her work. Dr. S. E. Munson then read a paper on the treatment of tuberculosis. Dr. J. A. Egan then gave an informal talk explaining the maps and diagrams which had been prepared in the office of the State Board of Health. They presented in a very graphic and interesting manner the distribution and mortality of tuberculosis in Illinois. The papers were both discussed by every member present and were heartily commended.

### PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 72.

#### Officers.

President ..... L. A. McFadden  
First Vice President ..... J. C. Roberts  
Second Vice President ..... B. M. Stephenson  
Treasurer ..... Jeanette Wallace  
Secretary ..... S. M. Miller  
Censors: E. M. Sutton, one year; A. J. Kanne, two years; F. B. Lucas, three years.

The Peoria City Medical Society met Tuesday evening, May 17, 1904, in the Observatory Building.

The members present were Drs. Allison, R. D. Bradley, Roberts, Cooper, Kanne, Allison, E. L. Davis, Brobst, McFadden, and Collins.

Dr. R. D. Bradley presented a case of a child four years old, who had lesions over the body that were diagnosed as syphilitic by a majority of those present.

Dr. Collins presented a **Hodge pessary that had been placed in a vagina twenty years ago and left there.** Lately the patient had suffered from pain, and a bloody, bad smelling discharge from the vagina, and the symptoms seemed to indicate malignancy until an examination disclosed the cause of the trouble. It was deeply embedded in the vaginal tissues and had to be cut out.

Dr. Collins also presented a **chondroma**, three centimeters in longest diameter, removed from the elbow joint.

Dr. Collins reported a case of **fracture of the forearm followed by contraction of the flexor tendons.** The causes of the contraction were found to be the transfixion of the flexor muscles by the upper fragment of the ulna, and the formation of a hematoma two and one-half centimeters in diameter. The muscles were freed and the hematoma removed. A few weeks later the flexor tendons were lengthened. The ultimate result was very satisfactory and a useful hand and arm was secured. Adjourned.

The Society met Tuesday evening, June 7, 1904.

The members present were Drs. Roskoten, Whitten, Gelder, E. L. Davis, Sidley, Allison, Jeannette Wallace, Hanna, McFadden, and Collins.

The applications of Dr. W. J. Wulstein, Peoria, and Dr. W. E. Frank, Deer Creek, Ill., were read and referred to the Board of Censors.

Dr. F. K. Sidley read a very interesting paper on **Tropical Diseases; especially those relating to the Ear, Nose and Throat**, which was discussed by Drs. Roskoten, Allison and McFadden.

Dr. Whitten reported a case of **aneurism of the superior mesenteric artery** with operation, and removal of the aneurism and resection of a portion of the intestine.

Dr. Sutton reported two cases of **extra-uterine pregnancy.** One was advanced to two and one-half months, and was brought to the hospital suffering from collapse due to rupture of the tube. Beginning with the toes and fingers the extremities were bandaged, with an elastic flannel bandage, to the trunk of the body. Adrenalin was administered in small doses at frequent intervals. Several hours later the pa-

tient was operated on. Active hemorrhage was occurring when the abdomen was opened, which the speaker attributed to the manipulations incident to the moving of the patient from her bed to the operating room. The second case had advanced to three and one-half months when further development had ceased. Both cases recovered. Adjourned.

S. M. Miller, Official Reporter.

## OGLE COUNTY MEDICAL SOCIETY.

### A Prevailing Skin Disease.

In considering the skin disease which has appeared as an epidemic in certain localities during the past year we can simplify our conclusions by eliminating age, sex and constitutional symptoms. As each sex and all ages were equally affected, with little or no constitutional symptoms, except perhaps a coated tongue, constipation and some indisposition.

The weather did not seem to affect the disease either favorably or unfavorably, as it began in the early summer lasting through the fall and winter, and gradually spreading from family to family, sometimes affecting each member, and again one or more would remain free. It is no respecter of persons. The father or mother in one family, first showing signs of the disease, in another any one of the children may first break out. It spreads through a neighborhood like a slowly acting epidemic. Many could not tell when or where they had been exposed; and some children sleeping with those having the disease would not be infected. It has appeared as a chronic affection lasting for weeks and months, and yet after we learned how to treat it we could shorten its duration and greatly modify its severity.

The eruption appears as an isolated, pointed round, hard pale papule. (Its first appearance reminds you of single papules of goose flesh.) In a shorter or longer time becoming more or less flattened (and in some cases umbilicated) and irregular in shape and light; medium or dark red in color, without an inflamed base. The lesion is firm to the touch, elevated above the surrounding, is not painful, but is always accompanied with intense itching, which is always worse afternoons and evenings. The surface of the papule is smooth at first, may remain so throughout its entire course, or may be covered with scales during its later stages. In one case which was under observation for sometime, each papule surrounded a hair follicle, each papule was umbilicated and covered with dark grayish scales in its last stages, but it always remained a papule throughout its entire course. Vesicles and pustules did not appear in a single case. Crusts and blood were often visible, but in each case they were probably due to scratching. In some cases the papules were few in number and widely separated, in others they were closely set and very numerous. They may be distributed over all parts of the body or confined to one or more regions, appearing most frequently on the anterior surfaces of the forearms and wrists. Inner sides of the thighs and tibial surfaces of the legs. Occasionally the eruptions will

appear on the backs of the hands, and in the more aggravated cases the body will be more or less involved.

The eruption develops without any premonitory symptoms.

Those affected say they feel perfectly well, that it is the itching which first attracts their attention, and then on close inspection they first discover the papules.

We will have to attempt a diagnosis by elimination. Papular eczema somewhat resembles the rash under consideration, but in papular eczema the papules are situated upon an inflamed base, are tender to the touch. The skin is more or less thickened, and vesicles and pustules are apt to follow, and in papular eczema the papules are not umbilicated.

The lesions of acne are confined almost entirely to the face, chest and back. Pustules and comedoes are frequently present. The more marked lesions are tender to the touch and are not usually accompanied by itching.

Psoriasis begins as a sharply defined red raised papule. Is surrounded by infiltration, covered by thick grayish scales, which on removal leaves an excoriated or bleeding surface, and all papules have a tendency to increase in size.

In Lichen Scrofulosus the papules are reddish yellow in color, do not itch, and are only observed in cases of scrofulous diathesis.

Lichen Ruber the intervening surface becomes reddened and infiltrated, and the whole system is profoundly involved. In some cases it seems to be the initial manifestation of a general breakdown. In vegetable parasitic diseases we get more yellow crusting and macular rather than papular eruptions. The eruption caused by the animal parasites is of a hemorrhagic nature, and it would hardly seem possible that the louse or bedbug could be so widely distributed without being discovered.

The cause of this epidemic eruption is mysterious. In fact no definite cause can be found. The anemic, the plethoric, the well fleshed and the lean kind; the sanitary and unsanitary. All seem to be equally subject to the affection. However, I think this general statement can be made viz, that the disease is more severe and more rebellious to treatment when the stomach and bowels are not in perfect condition. Seasons of the year, clothing, active or sedentary habits do not seem to be a causative factor, and I cannot trace the cause to either the foods or drinks.

Is it a neurosis? Is it lichen planus? Is it parasitic? Is it caused by the use of some particular soap? Or is it like the wind, "We can see the results thereof but we cannot tell from whence it cometh nor whither it goeth."

As to treatment, cathartics, quinine, calcium sulphide and the digestants are used by some, and some physicians use no internal medicine whatever. Locally the soap and water bath followed by alcohol, eczema lotions, bichloride solution, boric acid solution and carbolic solution all seem to relieve the itching more or less, with perhaps some modification of the



lesion; but after trying them all, we have adopted the treatment of Dr. Coquille of Byron, viz. A good scrub with hot water and soap, rinse with plain water. Apply alcohol, let dry, then stand by a hot stove and apply to the entire surface sulphur ointment to which 10 to 20 grains of carbolic acid, for each ounce of ointment, has been added, rubbing it in until it has entirely disappeared. Apply the ointment once or twice daily, and we have gotten the best of results. And finally whether the tongue is coated or clean, the breath foul or sweet, male or female, young or old, always clean them out and your local remedies will work better.

#### CALHOUN COUNTY MEDICAL SOCIETY.

The Calhoun County Medical Society held its regular meeting in Hardin, on June 19, 1904. Six members being present. Dr. W. A. Skul, subject for discussion was **Puerperal Hemorrhage**; Dr. S. Flatt, subject, **Puerperal Eclampsia**; Dr. I. S. Barry, subject, **Phantom Pregnancy**. A general discussion followed.

Dr. I. S. Barry was elected president of the Society. Dr. Louis Faihs was received as a member of the Society.

By motion Society agreed to have a meeting and give their annual dinner on Sept. 19, 1904.

T. O. Hardesty, Official Reporter.

#### DECATUR MEDICAL SOCIETY.

The Decatur Medical Society held its regular monthly meeting, June 28, 1904, in the rooms of the Decatur club.

The meeting was interesting and the attendance good. Arrangements were made at this meeting whereby the society meets permanently in these rooms by paying a small rental fee to the Decatur club.

Dr. William H. Bell read the paper of the evening on "Dislocated Kidney." Much of the paper was given to the normal anatomical relations and to differential diagnosis of loose kidneys. The discussion worked up the idea that the majority of women have a loose kidney; that many of these kidneys create no symptoms unless the woman knows she has it; that the symptoms are sometimes relieved by a properly fitting abdominal pad and support, but the promise of permanent results is in fixation only, in cases not showing too much enteroptosis.

Dr. W. P. Davidson of Sullivan showed two patients. One a girl aged 12, ailing since December, 1903, with some weakness and loss of flesh. He saw her a few months ago when he found left pleural effusion. Aspiration showed a blood-stained fluid. She has required aspiration about once a week because of dyspnea and excessive accumulation of fluid. There is no fever except when chest gets full of fluid.

The child looks fairly well but thin. There was no tubercular history but the opinion generally was that this is a tubercular pleurisy.

The other case was a brother of this girl, but younger, showing an empyema of the left side accompanied by some fever but not much failure in general health. He had aspirated once but the cavity is probably refilling.

Drs. Jones and Cass Chenoweth related the case of a woman past 70 having spells lasting several minutes at a time and several in a night of complete left sided hemiplegia. In the intervals she would be free from this symptom. This continued more or less for over twenty-four hours. A fatal issue was rather expected but meantime salines were given and the bowels freely moved with benefit.

The instructive feature of the case is that after the physic acted and a day or more after food had been taken this patient vomited an enormous quantity of cabbage, meat and other similar food and has been perfectly well every hour since.

Dr. Cecil Jack gave a very entertaining talk of his trip to the meeting of the American Medical Association and of his visits to eastern clinics.

W. C. Bowers, Secretary.

#### Pan-American Congress Meets in Panama, Dec. 1904.

New York, June 9, 1904.

Fourth Pan-American Medical Congress. Office of the Secretary of the International Executive Committee, 75 West 55th st.

The Pan-American Congress meets every three years. It was started by Dr. William Pepper of Philadelphia, Dr. C. A. L. Reed of Cincinnati, Dr. Albert Vander Veer of Albany, and Dr. H. L. E. Johnson of Washington. The first meeting was held in Washington in September 1893, the second in Mexico in 1896, the third was to have been held in Venezuela in 1899, but was given up on account of the war in that country. The place of meeting was changed to Cuba, but had to be postponed until 1901 on account of the fever there.

These meetings have always been well attended and it is thought that Panama will be an interesting place for the convention.

Further particulars will be sent out from time to time to the Journal, together with notifications of the different officers appointed to represent this and other countries.

Wanted a physician. One who can step into a good well built up practice which has been a doctors office for the past 10 years with good success. Good reason given for vacant office. Rent reasonable. It will pay you to address, Chas. Price, Jacksonville, Ill.



# The Illinois Medical Journal.

*Special Section Containing Official Reports of the Chicago (Cook County) Medical Society and its Branches.*

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W. A. EVANS, 103 State Street .....	Chairman Medicolegal Committee
W. M. HARSHA, 103 State Street ....	Chairman Membership Committee

JULY, 1904.

A regular meeting was held Wednesday evening, May 25th. President Preble in the chair. The program embraced a symposium on Hernia.

### **The Problem of a Flap Method in Herniotomy; Imbrication a Complete Solution.**

By E. Wyllys Andrews, M. D., Chicago.

Professor of Surgery, N. W. University Medical School; Surgeon to Mercy and Michael Reese Hospitals.

I choose this title to fix attention at once on the plastic flap as the one thing needed to perfect the surgery of hernia. I will try to show that a dozen or more experienced operators have invented and tested as many ingenious methods of transplanting flaps to strengthen the canal walls, and that my method is the simplest, easiest and strongest of them all.

But why introduce flaps at all? Why not merely close the sides of the opening together? The answer is brief, that we are dealing with defective anatomy. Whether we believe the cause to be congenital or from laxity and atrophy of fibers, the fact is that these are often deficient in quantity and not simply torn or pushed aside by the protrusion. We therefore need to add to and thicken them by incorporating some new tissue at this weak point.

It will be admitted at once that small hernias are easily cured by simple stitching together. Removing the sac alone would often allow the denuded muscle to fall together and unite, especially if the ring be small and some of its margins be included in the purse-string closure of the sac. The O'Hara operation deals only with the sac, and the Kocher operation does little more. Even the Macewen method of closing the walls is inefficient as a plastic operation, yet all these operations cure simple small hernias fairly well.

As surely as you do many herniotomies, you will come upon cases where these older methods, and even the Bassini operation, are difficult to execute. The real test of a method is its ability to handle the large hernias and rings. We have cases in our series operated on without any change in technique in which the rings were large enough to admit the whole hand. As the

method is as quick as any other, and is many times stronger, we deem it none too good for even the small hernias.

The moment one of these large old rings is encountered, trouble begins, with any of the earlier methods. If the sac only has been tied off, a frail membrane is left unsupported across a large gap. If some so-called sewing of the pillars is attempted, or if Bassini's deep suture is employed, we find the structures usually sutured are practically absent. A hernial opening of large size becomes a true ring. It is circular, and has sharp fibrous edges. The larger it stretches, the more fibrous and thin it becomes, until it extends from Poupart's ligament to the rectus sheath, and has hardly any muscle border. It resembles in such cases a ventral or umbilical hernial ring, and presents many of the same problems. The closure of such openings is very difficult, surgically speaking, in accordance with the maxims of plastic surgery to obtain good nutrition and absence of tension. The thin fibrous edges (unless they are overlapped, which I will come to later) do not present enough surface to unite well. Their vascularity is slight, and great tension exists when the circular hole is converted into a straight line by stitching. I never see an operation done this way without wondering how it can ever be expected to unite.

I advocated early the imbrication of these layers in umbilical as well as ventral hernia. Wm. J. Mayo very kindly credits this step to me, but himself adds another and even more valuable feature to the technique in that he overlaps the edges in a transverse suture line, a thing I had not thought of and which has apparently proven extremely successful.

In inguinal hernias with large fibrous rings, if we use, say, the Bassini deep suture, or the Ferguson, we find that there is an absence of muscle to sew to. What we really bring together in such large rings is often only the rectus muscle on one side and Poupart's ligament on the other.

The result is that the margins of the ring do not come together easily; Poupart's ligament is dragged up, and the rectus edge down, until these non-vascular structures seem in the greatest danger of non-union, or if they do unite,

to be torn apart rapidly on subsequent movements of the thigh and trunk. Here we have the principles of good nutrition and no tension again violated. As surely as an operator does a number of herniotomies, he will come upon cases of this sort.

Now, let us see what methods have been advised to meet this need. If I should give a list of the things tried, it would surprise you by its length, and the ingenuity displayed.

One of them is mine. I am going to tell later why I think it is best, but first let me give briefly a few specimens of what has been attempted in the way of introducing new material to fortify this weak spot.

First and most obvious, perhaps, the lower tissues from the thigh, have been tried. The fascia lata has been turned up in a trap-door flap to cover the ring. At least two muscles, the tensor vaginae femoris and the sartorius, have been cut loose by different operators and turned up to cover the ring.

Then, working from the upper side, the rectus sheath and muscle were early thought of. Woelfler employed the anterior rectus sheath inverted and sewed into the opening. Splitting the sheath so as to draw out and suture down the muscle was described by Halsted and is also recommended by Kelly. It is a great improvement on suturing the sheath and muscle, without opening, as it allows the softer muscle to be spread out more laterally. The invagination methods of Wood and Wutzer perhaps belong anatomically in the class of flap methods, although of a different date entirely. The scrotal skin in these methods was thrust into the canal and made to adhere there by stitches. Whether the sac inverted also or was only pushed aside cannot be determined.

Finally, heteroplastic plugging of the ring is another step in the search for something more efficient than merely sewing the margins of a hernial ring. Of these I will mention, as having been tried and advocated, sponge grafts, bone grafts of Wier, silver plates, and the silver wire mat of Phelps, who inserts many yards of wire into a single case. All of these I believe to be of little value. I perhaps ought to say also that I include in this last group the large cicatricial plug of the McBurney open method, now not advocated by him.

The mere catalogue of these ingenious contrivances shows an urgent need, namely, some new tissue to repair the weak canal. It would be useless to recount the endless variety of methods which did not do this. Thus the obsolete methods of Socin, Banks, Hahn, Barker, Bull, Czerny are no longer used at all, and those of Macewen, Kocher, O'Hara and Halstead very little at present.

Now, what is my operation? It is a short cut to success by simply making a sliding flap of the upper segment of external oblique, and drawing it down to Poupart's ligament. This of course doubles its thickness; gives broad surfaces for union, and covers an opening of any size with a stout fibrous layer. The overlapping can be done in front of the cord, behind the cord, or with the cord between. This makes at least

six practicable ways of imbricating, every one of which I have tested. There is little to choose between them in point of strength, but some are more quickly executed, and I have used in most cases. In a considerable number of cases, the anterior closure, has been employed, where for any reason it was not easy to free the cord from its bed.

I have found a great deal of satisfaction in teaching and practicing the fascial sutures on the cloth models. And this will enforce the value of the principle better than anything I know, because the mechanics of cloth, so to say, demand it. The sail-maker overlaps and doubles his seams. Edge to edge union is never used when great strength is required. When the good mother puts a patch on Johnny's trousers, she sews it edge to edge, if for looks, but if she cares more for strength, she imbricates the patch well, and uses a double line of stitching.

In the fascia of the abdomen we are dealing with layers very like to cloth in texture, and smoothness. If we join fibrous layers of aponeurosis edge to edge, we might better have not cut them, since their union is very insecure, but if we overlap and double stitch them, we get broad surfaces of adhesion which cannot come apart, and we double the thickness.

If you want a union that will never fail, or stretch, overlap and double stitch the layers. You will double the thickness of the abdominal wall where it is most needed around the cord exit.

Now, I want to explain what I did not exactly realize myself until I had done hundreds of these operations, that we are really making here quite a perfect and typical flap transplantation every time we imbricate or shingle over these shelving layers of aponeurosis. It has become clearer to me the more I studied it that the method was a short cut to what very many workers had attempted by other means. It should supersede every known flap operation.

Large rings need flaps. Small ones possibly do not but as it takes no longer and adds much thickness and strength, I do it in every case. It must never be forgotten that in hernia we have faulty anatomy and the promise and potency of great defects. We are building for the future if we apply the strongest known method to every case treated by operation.

Dr. W. T. Eckley read a paper:

#### Surgical Anatomy of Hernia.

I wish to premise my brief remarks on the surgical anatomy of inguinal hernia by a reference to a general law governing anatomic variations. No two inguinal canals are exactly alike. The abdominal rings in different individuals vary. The relation of the archiform fibres to the crucial arch in different cases as recorded by different observers is most diverse. The cremasteric entity is called by one author muscle; by another fascia; in fact the terms are used interchangeably by good writers and good operators. My object in citing a universal law is to establish a philosophical working basis looking to the avoidance of useless confusion.

Anatomic variations are to be sought in all products of the Mullerian ducts and Wolf-



fian bodies; in all evaginated structures; in all structures which undergo rotation; specifically these variations of diverse nature are to be anticipated in the inguinal canal (a) because the same in its hernical aspect is evaginated from the abdominal cavity—a diverticulum thereof; (b) because the lower extremities including the pelvic girdle rotated inward in embryo.

The anatomical part of this symposium very naturally hinges on (a) the inguinal canal prior to the descent of the testicle—the pregubernacular canal; (b) the canal as modified by the descent of the testicle—the post-gubernacular canal, (c) the canal as the distorted product of a hernial protrusion.

The pre-gubernacular inguinal canal is a succession of potentially weak areas subsequently designated abdominal rings and sub-arcuate space. The canal at this period is occupied by undifferentiated connection tissue—the inguinal ligament being attached above to the asexual gland, below to the bottom of the scrotum. By development of unstriped muscular fibres in this inguinal ligament the gubernaculum testis is formed. Contraction of the gubernaculum reduces the testicle (a derivative of the asexual gland) to the cavity of the scrotum via the inguinal canal and thus is initiated the post-gubernacular canal—the inguinal canal of a hernial man.

The post-gubernacular canal differs from the pre-gubernacular (a) in the presence of the spermatic cord; (b) in a diverticular loss of certain elements constituting the internal, middle and external spermatic fasciae. These fasciae were derived by the descent of the testicle, from the transversalis fascia, arcuate fibres of internal oblique and transversalis muscles and aponeurosis of external oblique muscles, respectively. Collectively the spermatic fasciae constitute a parietal diverticulum and partake consequently of the nature of the abdominal walls. Departure of the vas deferens from the spermatic vessels just external to the deep epigastric artery, produces an opening in the transversalis fascia—the internal abdominal ring while that part of the same fascia carried down by the testicle constitutes the infundibuliform or internal spermatic fascia. The arch likewise contributes the cremasteric covering, while the external oblique surrenders certain fibres known as the intercolumnar or external spermatic fascia.

Summed up and analytically considered the post-gubernacular inguinal canal of the text-books consists of (a) an inner wall, formed by transversalis fascia, triangular ligament and conjoined tendon; (b) an outer wall, formed by the aponeurosis of the external oblique muscle covered by fascia and integument; (c) a roof, formed by the archiform fibres of the transversalis and internal oblique muscles; (d) a floor formed by the upper shelved part of the crural arch or Poupart's ligament; (e) an internal abdominal ring, in the transversalis fascia; (f) an external abdominal ring, near the

pubic spine and in the aponeurosis of the external oblique muscle.

The inguinal canal incident to a hernial protrusion presents distortions of anatomical parts and departures from the post-gubernacular canal commensurate with the size of the hernia and the duration of the pathological condition. The rings are now actual ones; the subarcuate space is no longer a potentiality. The relative position of the rings to each other is altered to a remarkable degree, so that the internal one lies behind rather than lateral to the external one, explanation for which is evident, in view of the unyielding nature of the pubic bone. The deep epigastric artery is displaced mesially in oblique and laterally in direct inguinal hernia, and all that remains to tell the story of an inner wall is the conjoined tendon.

The muscular fibres of the internal oblique and transversalis in the region of the crural arch are disposed in two ways (a) some are inserted into the crest of the pubic bone as the conjoined tendon; (b) others are carried with the spermatic cord and testicle on which they appear in festoons of muscular fibres of such extreme delicacy as to be almost beyond the pale of the macroscopic. These are the cremasteric fibres. In some of the lower animals the cremasteric muscular fibres are derived from and clearly tracable to both internal oblique and transversalis muscles. In man, however, they are derived from the internal oblique only, the transversalis being represented by a fascia only. The interchangeableness so frequently noticed in text books, of the terms cremasteric muscle and cremasteric fascia can thus be interpreted.

The attachment of the archiform fibres conforms to no known law regarding extent. In one case the outer  $\frac{1}{2}$  of Poupart's ligament may be involved attachmentally; in another case muscular fibres may be demonstrated the entire length of this structure. And why is this so? For reasons associated with the law of anatomical variation previously cited. In the embryo the upper extremities rotated outward with the establishment of the permanent clavicle; the lower extremities including the pelvic girdle rotated inward. If then we have deference for fundamental principles in anatomy, we must admit the utter futility of attempting to give definite involvement of Poupart's ligament by the muscular fibres of the internal oblique and transversalis muscles. The pelvic girdle with its attached soft structures is a product of rotation and amenable to a general law—a universal precedent.

One more thing I wish to say, and I hope that in the discussion this point will be referred to fully by the surgeons, and that is the distinction between the so-called direct and indirect or oblique inguinal hernia. From an anatomical standpoint, I want to say, in my opinion the man is yet to be born who can tell prior to operation when he is brought in contact with a large hernia, whether it is direct or indirect, according to the text-books. They tell us that an oblique hernia comes down externally to the deep epigastric artery, and that



a direct hernia comes down through Hesselbach's triangle internal to this artery.

Assuming that we have a direct hernia large enough to fill the subarcuate space, what does it do with the epigastric artery? It pushes it outward. If it is an oblique hernia of the same size, it presses the artery inward. Now, how can you say whether it is direct or indirect, since in either case it occupies the same subarcuate space?

**Dr. W. C. Abbott:** I would like to present the medical side of the question or one essential phase of it. Physicians see 90 per cent of all the cases of hernia before they are seen by the surgeon; particularly is this true of cases of acute strangulation; and in view of this fact he should be well posted on how best to handle these cases to prevent change and destruction of tissue. When called to see the case we usually find a more or less educated patient surrounded by his family or friends all anxiously awaiting for the attention, bungling or otherwise, of the general practitioner.

The point I wish to make is that we should try to and be able to in every instance, through imitation of Nature's methods, get that gut back into the abdominal cavity with the least possible disturbance and within the minimum space of time, to the end that if the surgeon is subsequently called he will have a clean, non-irritated field in which to work.

We have at our command certain medicinal agents which will materially help in this; namely, hyoscyamine and glonoin, or nitroglycerine, with strychnine. Patients suffering from strangulated hernia are usually in more or less of a collapse with the oppression of circulation. If they are not in bed they should go immediately and the whole abdominal surface should be covered with a thick, soft, hot flannel or other compress and this covered with some heat-retaining material. This should not be disturbed throughout the treatment. First, give the patient glonoin to reestablish circulation and overcome the shock, then inject immediately a large dose (say 2 granules, Gr. 1/250 each) of hyoscyamine and watch the pupil for effect. Hyoscyamine acts like atropine, but has a greater effect upon the circular fibres of all the organs, especially the intestine, hence its adaptability in these cases.

If the pupils do not begin to dilate in ten minutes repeat the dose. This, however, is rarely necessary. As soon as the pupil begins to dilate, your syringe having been prepared while waiting, inject a large dose (say 1/30th of a grain) of strychnine and one-half of the above named quantity of hyoscyamine. The action of the hyoscyamine will be to increase and perpetuate the dilation while the strychnine will whip up the longitudinal fibres and produce a quick peristalsis.

With the dilation of the circular fibres as shown by the pupil the reflexes let up and produce cessation of spasm in the structures which surrounding the inner opening of the inguinal canal, as well as the entire canal itself, cause the constriction and quick peristalsis of the gut, aided if necessary, by gently

intermittent but persuasive taxes with a hot hand gently inserting underneath the hot dressing, will in most instances, cause prompt, painless and complete reduction. It may at times be necessary to add to this the inhalation of chloroform to partial or complete anesthesia. As a rule morphine and opiates of all kinds should be avoided.

**Dr. Fuller:** I would like to ask Dr. Eckley a question with reference to the differential diagnosis between direct and indirect hernia. He described very clearly the similarity of the two forms of hernia, each filling alike, when large, Hesselbach's triangle; the only difference being the outward displacement of the deep epigastric artery in a direct hernia, and the inward displacement of that vessel in an indirect hernia.

The Doctor said that the man was not born who could tell the difference. I should like to ask him whether it is not possible, with a hernia of the size he mentioned, by invaginating the scrotum and passing the finger deeply through the hernial openings, to feel the pulsations of the deep epigastric artery, and so differentiate between, in most cases at least, the two forms of herniae.

**Dr. W. T. Eckley,** (closing the discussion:) Referring to the differential points between direct and indirect inguinal hernia, I endeavored to convey the idea that in my opinion the man was not yet born who can tell, prior to operation, whether he has to do with a direct or an indirect inguinal hernia, inasmuch as in either case the entire subarcuate space is filled up by the hernial mass. If Dr. Fuller can do what he says by detecting pulsation in the deep epigastric artery. I am very glad to stand corrected, because it offers us a solution of a difficult problem.

This has been an interesting meeting because we have, I believe, harmonized the Bassini, Ferguson and Andrews operations. In the Bassini operation the cord is removed from its natural anchorage, in the Ferguson it is permitted to remain and in the Andrews it is strengthened by plications. In each case the arched fibres of the transversalis and internal oblique muscles are brought down to Poupart's ligament, and what must necessarily occur? When the arch is brought down the fibres are incapacitated, so far as their future contractile use is concerned. Atrophy of the muscle follows and we have three things to deal with; one, a vestigial remnant of the internal oblique, one of the transversalis fascia, and these blending with the cord make a resistant mass, so that the result we obtain here with the Bassini Ferguson and Andrews operations I consider good and satisfactory.

I wish Dr. Eisendrath would add to his etiology of hernia the same developmentally defective mesodermic tissue that is causative in floating kidney. This may be attributed as a factor in both inguinal and femoral hernia.

A regular meeting was held Wednesday evening, April 27th. The subject for the even-

ing was *The Relations of Ophthalmology and Otology to General Medicine and Surgery*. Among the papers read was the following:

#### Neurologist or Ophthalmologist?

By E. J. Gardner, A. B., M. D.,

Professor Ophthalmology, Chicago Eye, Ear, Nose and Throat College.

Of the many perplexing problems that fall to the lot of the general practitioner to solve, few are more difficult than those obscure cases of so called *neurasthenia* for which no well defined cause can be ascertained, and which apparently defy every form of treatment. The main symptoms may be general inability for all kinds of exertion—physical and mental, constant or recurring headaches, distressing feelings of exhaustion at the base of the brain, at times extending downward to the lower extremities; choreic twitches, insomnia, morbid irritability, melancholy, hysterical manifestations, one or more forms of morbid fears. The picture is familiar. The blood has been examined; if not normal has been corrected. The urine has, perchance, shown nothing abnormal, digestion has been improved and bowels regulated if not normal. The reproductive organs have come in for their share of examination and treatment. Tonics, sedatives, alterants, answers—sight is excellent, using the eyes does exercise, fresh air, rest cure, have been tried. Inquiry as to the eyes has elicited negative not particularly fatigue the patient. In fact, the patient will often assure the physician that the eyes are unusually strong. But still the morbid state persists. At this juncture the practitioner turns to the specialist for help in his perplexity—who shall it be, Neurologist or Ophthalmologist? The writer shall in this paper confine himself to his specialty, and endeavor to give one or two hints, without claiming any originality for them, that may be useful in some cases. No reference shall be here made to pain-producing cases of eye disease, presenting perfectly clear pathological lesions, conjunctivitis, keratitis, iritis, choroiditis, etc., or to affections of the eyes produced by, and dependent upon, morbid conditions of the general system—syphilis, rheumatism, kidney disease, or organic affections of the brain. If the derangement is due to eye strain there will be found a well defined cause for it in the eyes or the ocular muscles. There will be found either an anomaly of refraction, or an anomaly in the muscle balance. It matters little what form of anomaly this may be or how great the degree, for the purpose of making a diagnosis by exclusion, the main object is to ascertain whether an anomaly exists. The importance of the anomaly is entirely a different matter, and it is for the oculist to determine the extent and the importance—not such an easy task at times. It is of course a very easy matter to refer the patient to a competent oculist to make the examination, and the oculist certainly will raise no objection to such a procedure; but the patient sometimes does raise an objection to being examined at so much per by different specialists for the sake of finding out what the

matter is, and he entertains the opinion that his Doctor should decide beforehand the person to whom he should be sent for relief of his trouble. We shall not here discuss how much justice there is in this claim. But we will ask the rather pertinent question, is the general practitioner competent to decide the matter? I claim that he is, and if he is not he may become so with very little trouble. It is claimed that ophthalmology is the most exclusive of the specialties. It is, and profound are its mysteries. The average student of medicine gets through this department of his work with just enough to pass, and then shudders at the thought of what might have been. In practice, unless hard pushed, he will have none of it, and he is right. But after all it is the details that are difficult, not the fundamental propositions. The writer is a firm believer in specialties, and he would not yield an inch of his territory to the general practitioner, or would he encroach an inch into the general practitioner's field, but it is not our object to claim, that the practitioner should treat disease of the eye, but that in certain cases he should be able to recognize certain anomalies of these organs that may be the cause of the disturbances for which his patient seeks relief. It may be stated that with few exceptions all symptoms producing disorders of the visual organs (pathological conditions included, but not here referred to) recognize some more or less well defined anomaly in the formation of the eye, or in the action of its muscles. And the question before us may be thus stated: Is there a simple method by which these anomalies may be detected by one who is not an expert in ophthalmological technique? The ophthalmoscope in the hands of any one moderately expert is of great service—first, because by its aid he will be able to ascertain whether any pathology exists, and secondly, because he can detect errors of refraction. The ability to measure refraction with the ophthalmoscope is not a very common accomplishment; and the detection of small errors, half dioptric is most difficult ever for experts and these slight errors, especially when of the astigmatic form, frequently cause most distressing asthenopic symptoms. For the second purpose therefore the practitioner can not rely upon this instrument. The test card and box of lenses remain. The objection to this procedure is that it is complicated and difficult, and the outfit is expensive. This objection is valied when the purpose is to refract a case, but when the object is simply to ascertain whether there is an error of refraction or not, or whether there is muscle balance or inbalance, the matter is comparatively simple. The initial step in testing a case is done with four lenses and a Maddox rod, and with this small outfit and a test card the practitioner may determine what for him is the main object—whether his patient's eyes are normal. The outfit for such a test is very simple and inexpensive. In place of the large test case, a small one containing five pieces is all that is required, and a test card, either of the ordinary size or one having



letters to be read at thirty, twenty, and fifteen feet. (F. A. Hardy & Co., of this City make a test case of this description.)

For the muscle test, a lighted candle, or ordinary gas-light turned down to make a small flame, is all that is necessary. The technique is as follows: Placing the patient with both eyes open, at twenty feet from the light, and in such a position that the eyes will be on a level with it, the Maddox rod is placed before one eye, first with the axis of the rod perpendicular. The patient will then see with this eye along line of dispersion colors—running horizontally—and with the other eye, the light will be seen. If the line of dispersion colors runs through the light, there is no manifest imbalance of the superior and inferior recti-muscles of the two eyes. If it does not run through, manifest imbalance exists, hyperphoria. 2. Placing the Maddox rod so that the axis runs horizontally, a line of dispersion colors will be seen extending perpendicularly. If the line runs through the light there is lateral balance, externi and interni. If it does not, there is lateral imbalance. If the dispersion line is deviated to the side of the eye over which the Maddox rod is placed, there is inturning of the eyes—esophoria. If the dispersion line is deviated to opposite side of the light, there is out-turning, exophoria. Example: If the Maddox rod is placed over the right eye, and the line of dispersion is seen to the right of the light there is esophoria. If to the left of the light there is exophoria. Deviations of this nature are fruitful sources of nervous disturbances; but it should be borne in mind that they very frequently are caused by errors of refraction. The second test is with the card. With good illumination, normal eyes should easily read the line marked, 20—at 20; that marked 15—at fifteen feet. This test should always be made for each eye separately. Inability to read them signifies that vision is not normal. The test may here cease. If the line is readily deciphered, there is normal vision. This excludes any perceptible amount of myopia, but leaves a possibility of hypermetropia and slight degrees of astigmatism. Place before the eye the lens marked plus 0:50, spherical. If it blurs the line, there is no manifest hyperopia. If no change is noticed, or there is improvement, hyperopia exists. If plus 0:50 spherical blurs the line, place before the eye plus 0:50 cylindrical, with the axis perpendicular. If it clears the line there is astigmatism. If this blurs, try the horizontally, then obliquely midway between the two. If improvement is noted there is hyperopic astigmatism. If in one direction it blurs and in another no change is noted, there is astigmatism. If nothing satisfactory has been accomplished with these lenses, try—0.50 cylindrical. Place it before the eye with the axis horizontal, then perpendicular, then in the oblique position. If in any of these positions there is improvement in vision, there is manifest myopic astigmatism. The word manifest is used in all these cases advisedly because the manifest error is not necessarily the true error; but for the purpose

in hand, the question whether an error exists or not, is solved. I have purposely left the fourth glass—0.50 spherine in the case for the last, because its findings are frequently untrustworthy. The elements that contribute to make this test uncertain need not here be discussed, but the fact should be borne in mind. If the letters are rather indistinct, and this lens clears them up, there is manifest myopia, but we should not lose sight of the fact that many young emmetropes and hypermetropes accept a negative glass. A red glass has been added to the case, I confess more for the sake of symmetry than for any other reason. It is used for detecting latent diplopia—double vision. In some cases, when ordinarily one object is seen with both eyes, when tested with a red glass over one eye, there will be seen double images; significance of this phenomenon, it is not our purpose to discuss—suffice it to state that the Maddox rod will, for the object in view, answer the purpose of detecting muscle anomalies.

Resuming: Test the case for muscle balance. If there is imbalance, you have found a datum. Test with card: 1st. If the patient can not readily decipher 20/20 vision is not normal. You need not pursue the investigation any further. 2. If the patient can read 20/20 use the lenses as detailed above. If he accepts any of them, there is an anomaly, and bear in mind that small anomalies frequently give rise to large disturbances. Indeed, at times it would seem that they are in inverse proportion one to the other. By the use of these simple tests, you will be enabled either to eliminate the eyes from the problem, or you will be furnished with certain definite data concerning them. In both cases, the test will assist you to determine whether it shall be Neurologist or Ophthalmologist.

36 Washington St., Chicago.

A regular meeting was held Wednesday evening, June 1st. President R. B. Preble in the chair. The following paper was read and discussed:

Before reading his paper Dr. Derdiger presented a case of **Neurasthenia**.

#### A Case of Neurasthenia.

**Dr. Aria Louis Derdiger:** The case which I wish to present to you to-night is one of classical neurasthenia, and it has been so diagnosed by some of our best medical men in Chicago and treated for that disease with more or less benefit.

Six weeks ago the patient, age 52 years, the gentleman who is before you, consulted me about his eyes, wishing to have glasses prescribed for presbyopia. History of nervous symptoms for the past ten years. Upon examining the case I found considerable spasm of accommodation. The muscle test showed 6° of esophoria, with 1° of left hyperphoria. Adduction 20°, abduction 5°, sursumduction 1°. These tests were repeated several times during the first week, and the same results were obtained, with the addition of compound hypermetropia—astigmatism of slight degree. The



following week I found 2° more of esophoria, with one more degree of hyperphoria. The astigmatism was the same. The patient complained of having a feeling as though the eyes were being drawn too close together, and while reading he would lose the lines, so to speak, and would cease reading or writing. That occurred frequently, especially during his editorial work on the *Western Druggist*, which position, owing to his condition, he was obliged to relinquish. I concluded not to prescribe glasses nor to use any mydriatic, owing to the patient's age, but to continue examining the muscles and ascertain, if possible, the full amount of heterophoria. Three weeks from the time of the first examination we had 13° of esophoria and 3° of left hyperphoria; the astigmatism had disappeared. The patient's eyes exhibited: Right eye: Plus .75 D., of a simple hyperopia. Left eye: Plus .50 simple hyperopia.

Vision with these lenses was normal. The adduction power was 20°; the abduction, 5°. I prescribed spherical lenses, to be worn constantly, adding plus 2.50 spheres to those for reading purposes, together with rhythmic exercises with 4° prism, base in, to be used from once to three times a day, about five minutes at a time, stopping short of fatigue. That treatment has been continued for about two weeks, and during the last week the tests made daily at the office showed about 1° of left hyperphoria, and no esophoria. The patient is now able to read without losing the lines. The feeling of the eyes being drawn together, as if the patient were cross-eyed, has disappeared, and the neuralgic attacks, which I omitted to mention at the beginning, to which the patient has been subjected for some years past, have not occurred as frequently. If I remember correctly, during the six weeks the patient has had one or two attacks.

The purpose of showing this case is that cases of asthenopia, masked under the condition just described, esophoria and hyperphoria, are frequently referred to the neurologist, as has been the case with this patient, for treatment along that line, and very little attention is paid to the condition that really causes the nervous trouble. In this case, however, the patient had consulted an oculist some time ago, but the muscular trouble was not looked into, the patient receiving glasses for the astigmatism and presbyopia. I simply wish to state that after continuing these rhythmic exercises with prisms and the wearing of proper glasses, I hope to be able to ameliorate this functional nervous trouble. I do not wish to be understood as saying that the case is presented here as entirely cured, for that is not so, but I wish to say that the patient has derived a great deal of benefit from the treatment, and that his condition is decidedly improved. The spasm of accommodation having disappeared, we now will have a true condition of muscular anomaly, so that we may hope for permanent relief.

In the paper I am to read at this meeting, I shall cite cases that I have had under my observation for from one to two or more years,

having had the opportunity to watch for a recurrence, and you will see what is possible to do along this line.

### Nervous Diseases and Eye Strain.

By Aria Louis Derdiger, M. D.,

Late Instructor in Bacteriology at the College of Medicine, University of Illinois

In the following paper I wish to call attention to two of the numerous cases that have come under my personal observation, illustrating a large class of nervous diseases due to errors of refraction or weak or illy balanced muscles. Such cases, diagnosed by the general practitioner, are frequently referred to the neurologist as neurasthenia, migraine, chorea (St. Vitus Dance), hypochondriasis, etc., for treatment.

It has been the experience of the writer, in the careful study of the cases which have been examined and treated for the removal of ocular anomalies, that there is a direct relation between these ocular difficulties and the diseases in question.

These cases are chosen as being typical in all respects, representing the class of chronic cases generally supposed to have their origin in the nervous centers, or to be due to hereditary neuroses, and with unfavorable prognosis as to a cure.

When we consider the etiology of migraine and chorea, we shall readily see the plausibility of the direct connection of the eyes and the diseases in question, by bearing in mind the statement of Gowers and other authorities, that the "maximum period of migraine are late in childhood, puberty and early adult life."

One-third of the cases begin between 5 and 10, about two-fifths between 10 and 20, and most of the others between 20 and 30, half of the cases being hereditary.

As to treatment, Dr. Gowers says: "If any error in mode of life or defect in general health can be traced, the removal of these is the first and most essential step in treatment." We find a similar state in the etiology and treatment of chorea. It occurs most, frequently between the ages of 5 and 10. Prominent factors are heredity, over-work at school, excitement, bad hygiene, etc.

The eye tests made by the writer of several thousand pupils at the State Normal School, at Oshkosh, Wis., extending over a period of 5 years, are in accord with the statistics of other schools, that the greatest percentage of eye defects are found among pupils of school age. We know from experience that after the removal of a child from school, the chorea and migraine cease in most instances, but we also find by careful study of these cases, that while these diseases are, as a rule, self-limited, there is apt to be a return of the trouble upon close application of the eyes. Sometimes the condition manifests itself in a different form of neurosis later in life.

Experience is not wanting to confirm this hypothesis, as will be seen by the perusal of the cases in hand, which are but a few of the many which the writer has successfully treated.

Case. 1. Mrs S. F. W., aged 25, married. First seen April 9, 1895. When about 10 years of age began to have chorea. The cause was supposed to be due to over work in school. The disease has run an almost uniform course during fifteen years.

She now has the characteristic jerkings of the face, legs and arms. Twitching of the abdominal muscles and eye-lids are among the most constant and unpleasant of the choreic disturbances. She appears languid and says that she is always tired. She is thin in flesh, sleeps irregularly, has constant headache and for fifteen years has experienced troublesome symptoms of asthenopia. Complains of pain in the eyes, nervousness and constant headache. Her circumstances have been such as to permit her to employ whatever means offered a reasonable hope of relief, but every attempt has met with failure.

I find adduction 10 degrees, abduction 10 degrees, sursumduction 1 degree, insufficiency of internal recti or Exophoria 8 degrees, and L. Hyperphoria 1 degree.

Before atropin:

Vision—right and left eye 30/40. Patient saw double. With 8° prism, base in, vision was single.

After using atropin for three days:

O. D. V=30/80 with plus 50—plus 25 cyl. ax 90 vision=30/35.

O. S. V=30°80 with plus 75—plus 25 cyl. ax 60 vision=30/30.

Ordered: The above glasses less plus 25 D. sphere and rhythmic exercises for the Exophoria with 4° prism, base out, left eye, and 1° prism down R. E. for Hyperphoria for two to ten minutes two to four times a day, using only one prism at a time for Hyperphoria or Exophoria.

Exercises were continued daily up to April 27, when, upon examination the patient, while seeing double, 4° prism with base in would fuse images. Repeated examinations gave the same result, viz, 4° Exophoria and 1° left Hyperphoria, with the correcting glasses combined with 4° prism, base in, before the right eye and 1° prism, base down, before the left eye, vision was normal.

Adduction was 30°, abduction 8° and sursumduction 2°.

This correction was ordered to be worn constantly and exercises continued. One month later we found the patient free from choreic symptoms, she had no longer suffered from headache. The patient was seen once a month for one year, still gaining in flesh and spirits. She seemed in perfect health two years later, had no choreic symptoms, headache or pain.

The same correcting glasses were worn with comfort and the exercises ordered to be discontinued.

Case No. 2. Migraine or sick headache and bordering on hypochondriasis.

The following transcript of a case, the hypochondriac's own description of her symptoms, is characteristic.

"I have been a sufferer for years; in one day I have about fifty diseases, my head and stom-

ach especially. I cannot eat. If I eat the lightest food then I have indigestion, so I don't eat at all. I can't sleep, and if I do sleep for a few minutes I have such horrible dreams; I dream I am here, there and everywhere. If I sleep a little I am always moaning, for pains are all over my body. First my back, I can't stoop, then my chest, all down my sides, my shoulders, my legs, then the pain goes towards my stomach and head, and the pain stops there. I have been to vegetarians and they told me not to eat meat, so I have not eaten meat for years. I have been to Christian Scientists and they prayed with me aloud and in silence, and kept it up for a long time, until I lost courage. I have taken all sorts of massage and tried all sorts of remedies for years. I see there is no improvement, but the reverse. I can't even wash a cup.

"I have taken treatment from Mental Scientists and electric doctors, and all kinds of doctors, for a long time, but the pain became so severe that I can't stand on my feet but a few minutes before everything turns black before me. I get dizzy, buzzing in my ears, my sight grows dim, the heart palpitates, my whole body quivers, a cold sweat breaks out all over me, I feel deathly sick to my stomach, the bowels get loose, and the pain becomes so severe in my head and stomach that I am obliged to fall on the bed, sometimes I stay in bed a few hours, other times two or three days. I always thought that I had a complaint in my heart, but the physicians have examined me in private and at the hospital, and said my heart was well. Even when I wash myself the pain I have is terrible; sometimes I feel so heavy that I can't move myself, and I also have a burning in my body. This burning kills me altogether, for it leaves me very weak. I have been taking music lessons, but after half an hour's practice I have such pains that even the nails of my fingers ache. After singing awhile the letters become blurred, my voice becomes husky, and the eyelids twitch so that I tremble all over."

This patient was brought to me by her parents, who also presented a letter from Dr. D. B. Wyatt, of Fond du Lac, Wis. According to the history given by the patient and her parents at their first visit, July, 1895, Miss M. K. D., age 24, had been teaching school until eighteen months ago, when she suddenly experienced severe pain at the occiput, became nauseated, and was obliged to leave school. From that time on she was ill most of the time, and under the care of her brother, who is a physician.

The patient is thin in flesh, extremely pale, the lips are colorless, and the ocular conjunctiva pearly white. She has had migraine once or twice a week during the past five years. The pain is always unilateral, attacking one or the other eye, and supraorbital region, and extending downward along the course of the branches of the fifth nerve. With each attack she is forced to retire to bed, and intense nausea and vomiting is always present. A night's sleep often brings relief.



In this case there was found to exist before atropin:

Right and left eye  $V=20/20$  with minus 50 cyl.

X—180  $V=20/20$ .

The muscle test with prisms showed  $4^\circ$  of Exophoria, or a tending of the visual lines outward. Homonymous tendency. Insufficiency of the internal recti. Adduction  $20^\circ$ . Abduction  $8^\circ$ . Right and left sursumduction  $2^\circ$ .

Atropin was used for three days with the following results: The field of vision was contracted in all directions.  $V=20/60$ . The letters of the trial card appearing and disappearing. The ophthalmoscope showed the disc pale, the arteries rather small, the red cylinder of the larger arteries being bordered with white lines, representing the unusually conspicuous sheaths of these vessels. The veins were rather large. The general background lighted up well, but was of paler red than usual. There was found to exist:

Right eye  $V=20/60$  with plus 1.25 plus 50 cyl. ax 90  $V=20/20$  or normal.

Left eye  $V=20/60$  with plus 0.50 plus 50 cyl. ax 90  $V=20/20$ , or normal with insufficiency of the internal rectimuscles of  $4^\circ$ . Glasses for correcting the refractive error, combined with  $4^\circ$  prisms, base in, to be worn constantly, were prescribed. Gymnastic exercises were ordered, with  $4^\circ$  to  $10^\circ$  prisms, base out, were prescribed for five to ten minutes each day for six months.

No physical cause for these frequent and torturing nervous disturbances was found elsewhere than in the eyes and their appendages. Her father and mother were neurotic subjects. She was seen from time to time, and careful observations have been made of the ocular conditions, as well as of her general health. There continued a steady improvement, the color returned to her face, she gained in weight and strength, and although one year had passed she did not have an attack of migraine or a recurrence of the other symptoms.

July 3, 1897, a slight return of headache caused the patient to direct renewed attention to the eyes, when it was found necessary to use atropin for three days, which gave the following results:

O. D.  $V=20/30$  with plus 50 plus 1.25 cyl. ax 105  $V=20/20$ .

O. S.  $V=20/50$  with plus 50 plus 1.00 cyl. ax 90  $V=20/20$ .

The muscle test showed Orthophoria or a tending of the visual lines in parallelism, no Exophoria being present. Glasses for correcting the refractive error were prescribed without prisms to be worn constantly. Since that time she has continued to be well.

Conclusion. After comparison of the family history and physical conditions in several hundred cases of eye defects treated, extending over a period of fourteen years, many of whom had previously been under some form of treatment for neuroses, the writer ventures the following proposition, which is in accord, in the main, with the teachings of Dr. Stevens and other investigators in this line of work:

First. Hereditary neuroses, such as chorea, migraine, neurasthenia, epilepsy, and insanity are not always transmitted from parent to child directly.

Second. Such neuroses are the manifestations of transmitted physical peculiarities, which interfere with the normal functions, thereby tending to develop neuroses or predisposing to them.

Third. By carefully correcting errors of refraction and existing muscular anomalies, by prescribing the wearing of prisms, and regulated muscular exercises, these exercises being continued for months in connection with proper attention to hygiene, the writer has been able by persistent application of the wax taper and prism method, to develop the weak muscles, overcome the eye-strain, and practically relieve the functional nervous diseases, without finding it necessary to resort to tenotomy.

#### Discussion on the Paper of Dr. Derdiger.

Dr. Julius Grinker: The paper that has just been read has certainly been well worked out, and the essayist ought to be given a great deal of credit for curing a case of chorea and a case of so-called migraine with hypochondriasis, by correcting eye defects.

Of the several hundred other cases of functional neuroses which the essayist has mentioned, I am not so sure whether there were any cures performed by correcting eye strain. Every neurologist knows that in every case of nervous disease the eyes ought to be examined for various disturbances; in fact, almost every nervous case is examined for fundus findings, for ocular palsies, etc., but of the many cases of genuine neurasthenia, migraine and chorea that I have seen, and others with more experience, I have not heard of a single case that was cured by an ophthalmic surgeon. When there is a nervous condition, such as headache after reading, vertigo and other indefinite nervous symptoms due to eye defects, in other words, when there are symptoms produced by asthenopia, they are readily removed in the way indicated by the essayist. But migraine is not produced by eye strain; on the contrary, it seems to be the disease *par excellence* which is transmitted by heredity, either directly or indirectly. The mother has probably had migraine or has been hysterical or epileptic. Migraine, which gives us such a typical characteristic picture, with its periodic recurrences, with its onset at or near puberty; its peculiar symptomatology, such as intense pain either on one side or involving the entire head; the tendency to avoid light and noises; the nausea and vomiting which either accompany or wind up the attack, is still far from being recognized, and still further from being cured. Sometimes we flatter ourselves that we can lengthen the intervals between the attacks by the administration of cannabis indica, but how the mere fitting of glasses or the advancement of a muscle can cure a genuine case of migraine, when the most powerful remedies fail, I am unable to comprehend. It is certain that there are so-called ocular headaches that may greatly resemble migraine. If the case



which the essayist cured was migraine, he certainly has performed a marvellous feat that few others can duplicate. We are in the habit of referring cases of migraine and allied disorders to the oculists, but we always get them back not one *iota* better.

I know of the work of Dr. Stevens and Dr. Ranney, of New York, who has written a most readable book on the anatomy and physiology of the nervous system. Among the many things he claims to cure by correction of eye-fatigue, etc., he includes epilepsy and makes the most exorbitant claims for personal success. However, neurologists and ophthalmologists of note have failed to duplicate his results.

So far as the cure of chorea is concerned, which the essayist, by the way, pleases to call a hereditary neurosis, I doubt very much whether he has ever cured a case of Sydenham's chorea. There is a form of chorea, called hereditary, or Huntington's chorea, which I am sure, the doctor can not have in mind, as not even the deity can cure that disease. Chorea, as is well known, is an infectious disease bearing some close relation to rheumatism and occurs usually in children, regardless of heredity. It is a disease that is self-limited; it may last fifteen weeks, but never fifteen years. I cannot get myself to believe that a case of chorea has lasted fifteen years and still less that it was eventually cured by glasses. There are cases which so resemble chorea, that they are often taken for that disease by those who do not see much chorea. Children often develop a peculiar twitching of the eyelids owing to some uncorrected error of refraction. The twitchings are choreic in character, but are not identical with those seen in chorea minor. The best remedy at our command in the treatment of the last-mentioned disease is still Fowler's solution in ascending doses. It is best to begin with 5 or 6 drops well diluted in water, to be taken after meals, and to increase one drop daily (not one drop three times daily.)

As regards the essayist's case of hypochondriasis, the enumeration of the symptoms as given by his patient, proves it to be a typical, uncomplicated, classical case of old-fashioned neurasthenia. That suggestion, direct and indirect, has celebrated its greatest triumphs among the neurotics, is so well established a fact that it only needs to be mentioned. It is not always easy to find out what agent will produce the desired effect in the patient. Sometimes it is medicine, sometimes electricity; osteopathy, or Christian Science, or direct hypnotism. It is possible for eye-glasses to produce salutary effects upon a patient's mental vision, as he is compelled to look upon the world through the medium of optimistic (or rather optician's) glasses, instead of looking through his own pessimistic eyes.

**Dr. Derdiger** (closing the discussion): I have not much to say, only to answer Dr. Grinker, who has commented on my paper. I shall be very much pleased to show him the records I have of these cases. I have taken pains to mention the doctor's name who referred the case to me, and the young lady's brother is

also a physician, and a diagnosis was made of migraine and hypochondriasis. If my memory serves me right, there was also a consultation had with a neurologist as to its being migraine.

All forms of treatment, as was described in my paper, were resorted to until the patient came under my observation. I did not claim in my paper that I cured the patient merely by putting a pair of glasses on. First, I endeavored to remove the spasm of accommodation with a mydriatic, then corrected the defect of vision, then the anomalous condition of the muscles with prisms, the Exophoria and Hypephoria after which rhythmic exercises were continued for a long time. If there are any other practitioners here who doubt that these cases can be cured, have been cured, and are cured in the manner I have described, all they have to do is to step into my office and I shall gladly go over my record books with them, so that they can see for themselves. Furthermore, if they will take the time to read Dr. George Stevens' book on nervous functional diseases, they will find that he has cured a number of cases of chorea, epilepsy and migraine by the correction of the eye defects. Dr. Stevens believes in tentonometry. He seems to favor that line of treatment more than the treatment described by me.

#### NORTH SHORE BRANCH.

##### Officers.

Chairman...G. W. Green, 1296 E. Ravenswood Park  
Vice Chairman.....L. L. Gregory, 1377 N. Clark st  
Secretary....Geo. Edwin Baxter, 1916 Evanston ave  
Councilor.....J. P. Houston, 1180 Sheffield ave  
Alternate Councilor.....A. Young, 550 Wilson ave

##### Committeemen:

South Subdistrict.....H. B. Williams, 100 State st  
West Subdistrict.....R. E. Green, 70 State st  
North Subdistrict...Bertha E. Bush, 808 Morse ave  
East Subdistrict.....J. A. Patton, 100 State st

The North Shore Branch held its regular annual meeting, Tuesday evening, June 14, 1904, in the Ravenswood Club House, corner Wilson and Ashland aves. The following program was given:

**Some Points in the Medical Treatment of Adenoids and Tonsils**, E. F. Snyderacker.

**Cholelithiasis, report of two cases with Presentation of Specimens**, M. E. Block.

Papers were discussed by Drs. Green, Young, Gregory, Abbott, Burr, Snyderacker and Block.

The following officers were elected for the coming year: Chairman, G. W. Green; Vice-Chairman, L. L. Gregory; Secretary, Geo. Edwin Baxter; Councilor, J. P. Houston. Alternate Councilor, A. Young. Committeemen: South Sub-district, H. B. Williams, West Sub-district, R. E. Green, North Sub-district, Bertha E. Bush, East Sub-district, J. A. Patton.

The annual report of the Secretary was read and approved which showed the Branch to be in a very active and flourishing condition. Announcement was made that members who may desire to present papers at the meetings next year shall notify the Secretary before Oct. in order that the program for the year may be made up.

George Edwin Baxter, Sec'y.

## NORTH SHORE MEDICAL SOCIETY.

Report of two cases of **Cholelithiasis** with demonstration of specimens.

**M. E. Block:** Case No. 1, is of interest on account of the difficulty of diagnosis. Case No. 2, on account of long standing, the amount of calculi removed and the success of the cholecystectomy.

**J. W.** aged 42; family history, negative. Present history, has been in poor health for ten years and more or less under medical attention.

Present illness: On March 17th, was called to patients home and found him in severe pain referred to the right iliac fossa, temperature  $102\frac{1}{4}^{\circ}$ . On palpation I found diffuse induration. Gave patient hypodermic of morphine and atropine, also used rectal injection of hot water and olive oil, as patient was constipated, which relieved him. The next day I found patient up, as he stated "feeling good." Two days later was called during the night and found him in agonizing pain, flexed right thigh, nauseated, a usual picture of an appendicitis case. Hypodermic injections only partially relieved him. I suggested immediate operation, but patient and his family would not submit. The following day I found patient better and he remained so until March 21st, when he had three attacks similar to those previously described. I again suggested as the only relief surgical interference and finally he consented to operation.

Operation. On March 22d, I assisted Dr. D. N. Eisendrath in the operation; but to both our surprise found the appendix beyond some adhesions not involved. After removing it a digital examination was made, toward the gall bladder region, and a hard resisting mass was found. Dr. Eisendrath concluded that it was a cholecystitis. After closing the wound a new incision was made, and we found that we had a case of empyema of the gall bladder. After withdrawing the pus through an aspirator a large calculus was removed. The patient made an uneventful recovery after  $4\frac{1}{2}$  weeks the wound had entirely healed.

Patient states that he feels perfectly well.

**J. G.** aged 44, family history, negative. Past history: Patient looks robust, but has been in poor health for 15 years.

Venereal history: Had gonorrhoea three years ago, which was not properly treated, since then he has had strictures. Has been bothered with cystitis more or less ever since. Has been a moderate user of alcoholics.

Present illness: Dates from an attack about 10 years ago, when he was taken ill with a sudden pain over the liver radiating to the stomach. Then attacks followed which were months apart. On March 28, 1904, I was called to the patient's residence and found him suffering from acute pain radiating to the right kidney. Hypodermic medication partially relieved him. I prescribed soda phosphate  $\frac{3}{4}$  ss every four hours before meals with good results; since he stated that he was feeling good.

I made an examination of his urine with

the following result: Albumin and amorphous phosphates, traces of urobilin.

Microscopical examination: Some epithelial cell, hyaline casts. Diagnosis cholecystitis and Bright's disease.

Operation: On account of patients condition chloroform was used, but as soon as he was under the influence of the anesthetic syncope occurred. Dr. Eisendrath used what he calls the Koenig-Mars method of heart massage, which consists of a number of sharp pressure movements over the precordial region. The patient was quickly resuscitated. Ether was then used. After the usual abdominal incision, the gall bladder was found to be filled with calculi and over 350 were removed. In addition a cholecystectomy was performed. The operation was a success; the patient making an excellent recovery, leaving hospital in 16 days.

## WEST SIDE BRANCH.

## Officers.

President.....John A. Robison, 297 Ashland Boul.  
Secretary.....J. J. Alderson, 264 S. Halsted st  
Delegate to Council.....A. I. Bouffleur, 100 State st

The West Side Branch of the Chicago Medical Society held a regular meeting at the Cook County Hospital, Thursday, May 16th, 1904, at 8:30 P. M. with Dr. Jno. A. Robison in the chair, our President, Dr. I. N. Danforth having been called from the city. Minutes of previous meeting read and approved.

On motion of Dr. Fitch the chairman was empowered to appoint a committee of two members to draft resolutions of regret at the death of Dr. F. C. Schaefer.

The program of the evening was a continuation of a symposium on the **Surgical Diseases of the Kidney**, and the first paper by C. J. Rowan on the "operative technique" ably covered the topic.

At the request of the chairman, Dr. Tieken gave an extempore talk on the **Preventive Treatment**, the doctor to whom the subject had been assigned not being present.

Discussion by Drs. Bouffleur, Harvey, Brown, and Reynolds. Dr. Bouffleur reminded the meeting that kidney surgery was largely of American origin and among the foremost surgeons in the work were Chicago men, and paid a tribute to the work of the late Dr. Fenger in this line and also commended the segregator of Dr. Harris.

Dr. Tieken talked on **cryoscopy**, going over the subject thoroughly. From his remarks, the method is not of general practical value.

It being our annual meeting the election was held by informal ballot resulting in the election of the above named.

A smoker was held.

Adjourned to meet Oct. 20, 1904.

J. J. Alderson, Official Reporter.

A regular meeting of the West Side Branch of the Chicago Medical Society was held at the Cook County Hospital Thursday evening, May 19th, at 8:30 P. M., the President, I. N. Danforth in the Chair.

Minutes of previous meeting read and adopted.

Dr. W. S. Royce read a paper on **Varicose**



**Veins and Ulcers; Their Treatment,** and gave a demonstration of his method.

**W. S. Royce:** I trust you will pardon me for attempting to interest you in a subject so common and ancient, but the following reasons I hope will partially justify me in the attempt:

1st. The great number of sufferers.  
2nd. Many of them incapacitated from earning a living. Many more who are partially disabled and not able to fill positions in their chosen vocations, and many who, while filling positions, do so only by suffering great physical pain.

3d. The unsatisfactory results from the usually recognized proper methods of treatment, and the amount of work and trouble in their application. Those who have had dispensary experience, can well recall the washing, and salving, and powdering and dressing of these so-called old leg cases, who go around from one dispensary to another, dreaded by and almost considered a nuisance by all, until they become disgusted with themselves, finally giving up to the idea that they are incurable. A large majority, as you know, of these cases, are among the middle and so-called lower classes. People who are obliged to labor hard and spend much of their time upon their feet, and when finally the condition gets bad enough, become inmates of our charitable institutions, a burden on the community and to themselves. If we have a method of treatment which will cure these patients with no loss of time and without suffering, it must prove a boon and well worthy of adoption.

I will not take your time by discussing etiology and pathology subjects so well known to you all. With your permission I will demonstrate a treatment which I have used exclusively for about seven years in clinic, dispensary and private practice which has given such splendid results that I think I am justified in believing it the best.

The formula for this dressing is as follows:

Oxide of Zinc, 4 parts.

Sheet Gelatin, 4 parts.

Glycerin, 10 parts.

Water, 10 parts.

If you will dissolve the gelatine in the water, add the glycerine and stir in the oxide of zinc, all being heated in a water bath, you will find it easily prepared. The above formula is, no doubt, familiar, being that of Unnas' Paste.

First we will suppose a simple varicose condition without ulcers. We will put the patient on a table in a reclining position with the foot elevated, the heel resting on a support. We will now scrub the leg with green soap and hot water, then wash off with alcohol and wipe dry. By this time the veins will be somewhat emptied and reduced in calibre though for the first dressing it is preferable, and this applies nicely in private practice, to have your patient remain in bed till you call from the night before elevating the leg during waking hours, then you will have the leg in the best possible condition. Now having melted your dressing, with a brush, a flat one about two inches wide is suitable, apply evenly over the foot and ankle, have

dressing as hot as can be comfortably borne; now with gauze bandages about two inches wide, commence at the ball of the foot to apply after coming back about half way over the instep, always cutting off the bandage and starting again, never reversing; take a few strips of the bandage and apply around heel and ankle. Your knowledge of bandaging will suggest how to do this nicely, but the bandage must never be reversed, but cut and started anew. Your dressing will hold each piece nicely in place, applying more dressing as needed. Now having the foot and ankle nicely covered, apply the dressing to leg and continue the bandage, but as the lower edge begins to leave the upper edge of the turn of the bandage below cut and start again. In this way you will have a nice smooth dressing from the ball of the foot to the knee. Now examine and if any irregularities in the contour of leg appears carry a strip of bandage around, breaking joints, as we might say. Now apply dressing over all lightly, and apply a bandage smoothly as you would in the regular way, not tightly. This outer bandage can be changed every few days as the patient wishes for cleanliness. Such a dressing, when there are no ulcers should be left on, first one two weeks—a month or more after, depending on the condition of the leg. When there has been much swelling, and the condition improves as it surely will, and the dressing in consequence is loose, a new one should be applied.

When we have ulcers to treat the following plan is to be employed: First, clean the ulcer, curetting when necessary, and if ulcers are very foul, I have found the application of a wet dressing of a solution of picric acid, 30 grs. to the pt. for 24 or 48 hours an excellent plan. Now prepare the leg as in the simple varicose condition. The ulcer dress as follows: Apply the dressing right up to the edge of ulcer, then apply a dry powder to ulcer very liberally. I have used several different dry dressings, but after long experience I have proved conclusively that these ulcers will heal faster and better under Campho Phenique Powder than any other. Now lay over ulcer about six thickness of gauze in size, let it be say for an ulcer two inches across, six inches. Now proceed with your bandages and dressing, over all as in the former condition. When first applied, the above powder produces some pain, but before you will have your dressing applied this will cease, not to return. The dressing on the ulcerated leg may be left on for ten days and when removed you will be surprised as the amount of healing which has taken place. I remember quite well, one case, a woman who came to my clinic with an ulcer about one inch by two inches, which was dressed as above, and instructed to come back in ten days. She did not return for about six weeks. In answer to the question why she did not return, as directed, she said it felt so good she did not want to. On taking off the dressing we found the ulcer entirely healed.

The reasons why this treatment is superior:

1st. The soothing effect of dressing, the glycerine de-hydrates the tissues, the oxide



of zinc exerts a soothing effect; the firm, yet elastic and equable support. We know that the blood vessels have resilience, which if aided, will enable them to resume near their normal caliber.

2nd. The small number of dressings required and the long intervals which elapse between same.

3rd. Absolutely no loss of time to the patient.

4th. The permanency of the cure.

5th. Comparison with some other forms of treatment.

Elastic stockings are taken off at night and not after patient is in a reclining position, and often not put on in the morning until patient is in an upright position, allowing veins to dilate more or less, at least, twice every twenty-four hours which absolutely prevents a cure. The same may be said of any form of frequent dressings. This dressing is always put on first after the leg has been elevated, and vessels have acquired their near normal caliber, and always put on subsequently after taking off the previous dressings before the patient is allowed to assume a standing position. Some cases the veins have become tortuous hard and tube like but still the Edema subsides and the dressing will exert firm, equable pressure and gradually there will be much improvement. The tissues become firm by massage of dressing and will furnish a support for vessels.

Something should be said of operative treatment,—Schades operation, re-section of veins, etc. I will say results are in most cases unsatisfactory, and this judgment is based on actual observation of results. Having examined all patients at the County Agent's Office, prospective candidates for Dunning, for seven years, I have seen many cases on which operations have been done who were in a worse condition than before.

Quoting cases would be taking too much of your time, but I could cite many instances of cure. One lady weighing 250 pounds, I now have in mind, with a large ulcer on left leg, inner aspect, lower 1/3 ulcer in size 2 by 4 inches, which had been open for seven years, cured by five dressings in three months. Woman ran a saloon, lived up stairs, tended bar much of the day, and never lost a day during the treatment. Histories of many cases could be given but this will suffice to illustrate what can be accomplished.

Gauze bandages should be used. Dressing will keep indefinitely and only needs to be heated by a water bath at time of using.

Dr. J. O. Price read a paper on **Pyelo Nephritis**, complicating pregnancy with report of a case, giving a concise clinical report of a case where first the right and later the left kidney were infected as proved by ureteral catheterization. The urine showed on examination, pus cells, albumen and the various casts. The patient was in severe septic condition. Gradual and complete recovery followed after evacuating the uterus of the products of conception and other indicated treatment.

Dr. Frederick Tice presented a case of **Addison's Disease** in a Scotch woman, 73 years old

going over the clinical features, the differential diagnosis, comments on the various methods of treatment in a most thorough manner.

The continuation of the program was a symposium on the **Surgical Diseases of the Kidney**. Dr. F. C. Schaefer presented a paper on the **Differential Diagnosis**, a complete and forceful presentation of the subject assigned him.

#### Diagnosis of Suppurative Surgical Diseases of the Kidney.

**Frederick C. Schaefer, M. D.\*** When our president requested me to participate in a symposium on renal affections he asked me to speak for ten minutes upon the diagnosis of suppurative pyelitis, pyelo nephritis, nephritis, and so-called surgical diseases in general. The latter part of the subject can hardly be complied with in the limited time allotted, for with the recent introduction of decortication of the capsule for the various forms of Bright's disease we may fairly maintain that almost the last vestiges of medical kidney diseases have given way to the inroads of surgery, and now practically all diseases of the kidney may in a sense be called surgical; and yet we must admit that the doctor of internal medicine will still continue to have his share of kidney diseases to treat. The line of demarkation between the surgical and medical kidney is not so sharply defined as to completely exclude either the general practitioner or the surgeon from their treatment.

\*Shortly after reading this paper died suddenly at his home, lamented by all who knew him.

In other words we shall continue to have an equal and mutual interest in the care of kidney patients.

In trying to arrive at a diagnosis of surgical kidney diseases we should first obtain as complete a history as possible of the patient's past record comprising his more recent as well as present constitutional condition. Many kidney affections have had their origin in some antecedent pathological condition which reduced their vitality or left some slight lesion which rendered the organs open to attack of micro-organisms; paved the way for the development of neoplasms or placed them in a position from within or from without their structure to be mechanically or otherwise seriously damaged if not actually destroyed. It is generally conceded that most so-called surgical diseases of the kidney originate from the lower portion of the urinary tract resultant from diseased urethra, bladder, prostate, seminal vesicles ureters, or even from the lower end of the penis, the pathology being of an ascending character. However the local conditions can and do serve as exciting causes of kidney involvement far more readily in patients whose organs may have already been weakened or placed in a receptive condition by internal diseases such as tuberculosis, arteriosclerosis, Bright's disease, rheumatic heart, or the dissemination of suppurative germs set free from a typhoid fever lesion, pneumonia, pyaemia, septicaemia, osteo-mylitis, exanthematous diseases, absorption from the alimentary canal, etc.

Any one of these constitutional affections may have been a predisposing cause or even the

exciting cause of the disease before us, and again both conditions may have blended in producing the disease we are investigating.

We can readily conceive how a patient with arteriosclerosis, suffering from uric acid accumulation can have a large mulberry stone form in the pelvis of a kidney, the movements of which cause abrasions to occur in the lining membrane producing infection atri through which germs from an infectious disease enter as the urine containing them is being eliminated by the kidney, giving rise to suppurative pyelitis, or pyelo nephritis, or if the same individual has an enlarged prostate with suppurative cystitis an ascending pyelitis will follow; and again a fragment of the stone in the kidney pelvis descending may have completely plugged a ureter resulting in the production of a hydronephrosis the latter converted into a pyonephrosis by the pus germs in his circulation.

If we are satisfied from the history that kidney disease exists the question confronts us is it of the ascending type and if ascending is it obstructive or non-obstructive, for if the urinary passages are occluded the symptomatology will be influenced accordingly. The obstruction may be the result of disease from within the genito-urinary canal, of an inflammatory nature and infectious resulting in stricture formation. There may have occurred a tubercular ulcer followed by cicatricial contraction, or caused by occlusion resulting from a deposit of caseous tubercular material; a calculus may have lodged in the ureter or a hypertrophied prostate blocked the outlet of the bladder. The obstruction may be attributable to causes external to the urinary tract. There may be a possible kinking of the ureter accompanying a movable kidney, or there may be a mechanical pressure from without occasioned by neoplasm, inflammatory adhesions, traumatism, gravid uterus, etc.

Remembering that the so-called suppurative surgical kidney diseases are:

1. Suppurative pyelitis.
2. Suppurative Pyelo-Nephritis.
3. Suppurative Nephritis.
4. Pyo Nephrosis.

In our endeavor to make a diagnosis of surgical suppurative kidney diseases we rapidly pass the foregoing points through our minds, while listening to our patient's story, and then proceed with the examination in a systematic manner: 1. By noting the objective symptoms. 2. By inspection. 3. Palpation. 4. Urine analysis. 5. Cystoscopic examination if necessary. 6. Segregation. 7. Cryoscopy. 8. Radiography.

The objective symptoms were already given by the patient. They are direct, systematic, reflex, and urinary. The direct symptoms are the least to be depended upon. However, pain and tenderness are apt to be present in cases of severe suppurative pyelitis, pyelo-nephritis, and nephritis. It may be slight in non-obstructive inflammation. The pain may be constant or intermittent. Exacerbation occurs with increased intensity if the disease becomes suddenly obstructive by a kinking of the ureter or the plugging of it caused by a calculus, blood clot or the product of inflammation, or a polypus.

Should the suppurative process have extended to surrounding tissues producing perirenal inflammation, abscess or extravasation, the pain becomes intense, followed in some instances by abdominal distension, pressure upon the diaphragm, interfering with breathing and the heart's action.

The systemic symptoms are of inflammatory origin and uremic, the degree of the latter depending upon the extent of impaired function. In like manner the degree of temperature will be dependent upon the intensity of the inflammatory process. If the latter is slight, fever may be entirely absent, on the other hand we may have all the phenomena of the most profound kind, including chill, dry skin, furred tongue and delirium.

The most important reflex symptoms are referred to the lower urinary tract consisting in exaltation of renal functions or inhibition of the latter. The reflex phenomena may cause complete retention of urine while pain is referred to the neck of the bladder, to the penis, testicle, or along the ureters; occasionally the pain is referred to the rectum, coccyx, the posterior or anterior portion of the thigh.

Inspection reveals peculiarities in the attitude of the patient. Flexure of thigh or body, or leaning forward is indicative of tenderness about the psoas muscle. May lean to one side on account of pain about the lumbar region. Is careful of himself in stooping; the muscles of abdomen are rigid, those of the spine likewise as in case of spondylitis.

Occasionally swelling is seen in the loin or abdomen.

Palpation will usually elicit tenderness about the kidney, while the muscles become tense, and if pyo nephrosis coexists with hydronephrosis swelling will generally be detected and possibly fluctuation: the latter depending upon the amount of distension. In the absence of obstruction palpation will be more difficult; still in all cases of acute inflammation there will be tenderness. The more chronic cases will be less sensitive to pressure.

The enlargement accompanying "obstructive" suppurative renal disease will have to be differentiated from:

#### First, Affections of the Kidney—

Traumatic Inflammation,  
Hydro-nephrosis,  
Cysts,  
Tuberculosis,  
Haematoma,

Adrenal Tumors,  
Floating Kidney.

#### Second, Affections not of the Kidney—

Gall Bladder distension,  
Displaced or enlarged Spleen,  
Post Peritoneal growth or Cyst,  
Abscess of Vertebra,  
Pathological condition of Pancreas,  
Pelvic diseases, Tumors,  
Abdominal tumors, Abscesses, etc.

The urinary symptoms relate to increased or diminished urinary secretion, or even complete suppression. Alterations in its appearance by



the action of bacteria and changes in chemical reaction, also the presence of blood, pus, epithelial cells, tube casts, and albumen.

The urine may be either acid or alkaline, when freshly voided, and should be examined while fresh, having been withdrawn in an aseptic manner. The reaction is dependent largely upon the kind of bacteria that cause the suppuration, being of course, influenced by the medicine the patient may have taken. If the bacillus coli commune exist alone the urine may be acid. The staphylococci and proteus vulgaris cause an alkaline reaction, setting free ammonia. In a large percentage of cases the changes as found are occasioned by mixed infection, contamination having occurred from pathological conditions of the lower urinary tract which have to be eliminated in order to draw correct conclusions. The presence of pus, kidney epithelium and casts, in connection with the other symptoms, is usually positive evidence of suppurative kidney disease. If we are in doubt after having made the urine examination, recourse should be had to cystoscopy with urethral catheterization or segregation, which at the same time enables us to ascertain the condition of the other kidney if only one is involved and gives an idea as to the relative functional activity of the kidneys.

Cryoscopy is of value in this connection, enabling us to determine the urinary efficiency of the healthy part of diseased kidneys and giving a proximal idea of the amount of solids retained in the blood. It probably comes the nearest of the newer methods of examination to being an accurate warning signal as to the dangers of resorting to radical operation.

This method has been used and extolled by Koranyi, Tinker, Casper, Kummel, and others. Electrical conduction, a more recent method, has been advanced by Lowenthal, in the same line of experimentation, claiming that "urine containing a given number of soluble molecules transmits electrical currents with definite degrees of exactness." We may expect aid from this source in the near future.

Radiography is of value in case of the co-existence of stone.

#### Differential Diagnosis.

A few points will be rapidly alluded to.

**Traumatism**—History of onset gives clue. If capsule is ruptured there will be symptoms of extravasation. There is generally early hematuria, accompanied by shock.

**Hydronephrosis**—Absence of fever temperature. Tenderness slight in comparison to swelling. History—frequent—of disappearance of cyst following free urination; after a time re-appearance of swelling. Urinary findings absent except when obstruction gives way.

**Cystic Kidney of Hydrotal Origin**—Hooklets in urine. Slow growth. Absence of tenderness. Irregular elevation of surface.

**Adrenal Tumor or Cyst**—Palpation may detect groove between growth and kidney. Skin

bronzed. Irritable stomach. Hair in some instances appears of marked and rapid growth in different portions of the body. Tumor is unusually mobile. Pain deep seated. No urinary findings unless the growth has extended or ruptured into the pelvis of the kidney, or has produced nephritis by pressure. Asthenia.

**Tuberculosis**—Often presents irregular outline in palpation. Tenderness not always present. Family history of Tuberculosis. Tubercular evidences in other organs or tissues. Urinary findings or bacillus of Koch, blood, pus, nocturnal elevation of temperature.

**Hematoma**—History of traumatism, with possible early hemorrhage in urine. Tenderness usual, may be absent. No fever.

**Neoplasms**—Slow growth except sarcoma. No fever, unless infection has occurred. Urinary findings, blood, epithelium, cells, characteristic of the growth. In case infection has taken place pus cells and bacteria and casts may be discovered with the microscope. In case of cancer, darting pains.

Since our banquet in February we have had an average attendance of about sixty, and great interest manifested in the subjects presented. Our next meeting occurs June 16th, at which time the annual election will be held.

J. J. Alderson, Official Reporter.

#### NORTHWEST BRANCH.

Regular meetings are held the first Friday of each month at 8 p. m., at Schoenhofen Hall Restaurant, cor. Milwaukee and Ashland avenues. Membership —.

#### Officers.

President.....M. H. Luken, 826 N. Irving ave.  
Vice President.....Karl F. M. Sandberg,  
684 N. California ave.  
Secretary.....Louis J. Pritzker, 418 W. Division.  
Treasurer.....C. F. Roan, 740 W. North ave.  
Councillor.....E. S. Seufert, 831 Milwaukee ave.

The Northwest Branch of the Chicago Medical Society held its annual meeting on Friday, June 3d, 1904, at 8:30 P. M., at Kopp's Hall, Cor. North and California Aves.

The program consisted of the President's annual address, which on this occasion was on the subject of medical organization; a brief report by the Secretary on the work and progress of the society, and election of officers for the ensuing term.

By motion of E. C. Senfert, the President's address was gratefully accepted.

By motion of H. E. Wagner, a vote of thanks was taken in acknowledgement of the Secretary's faithful services to the society, his successful efforts in rendering the meetings interesting and well attended and his efforts in conjunction with the local committee on organization.

The above named gentlemen were unanimously elected to their respective offices.

On motion the society adjourned until Oct. 7th, 1904.



# The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

## PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

**Internal Medication in Gonorrhea.**—The administration of Cystogen, gr. v. four or five times daily during the period of treatment of gonorrhea will greatly limit the area of infection, prevent re-infection and reduce inflammation. By the liberation of formaldehyde it causes the urine to become an antiseptic solution, thus insuring a thorough flushing of the urinary tract from the kidneys to the meatus with an agent that is actively opposed to germ life. This will be found to be an important adjunct to local treatment. For the convenience of patients it is often desirable to order Cystogen in tablet form, it being manufactured in five-grain tablets.

**Neuro-Lecithin**, the only true Lecithin; a product of nerve tissue, not of eggs. Indicated in debility, arrested development, nervous and mental diseases, as a nerve reconstructive, in diabetes and tuberculosis. Mention this journal. For literature, address The Abbott Alkaloidal Co., Ravenswood Sta., Chicago, Ill.

**Danger From Impure Milk.**—The high infant mortality in all parts of this country and particularly in large cities has caused some interesting investigation of the milk supply.

In Baltimore, Bassett & Knox examined a large number of samples of milk supplied to babies in hospitals and found an average bacterial contents of over four million to the c.c. The New York Board of Health found many samples last summer running ten millions to

the c.c. A few years ago at Stamford, Conn., over four hundred cases of typhoid fever developed in families supplied from a single dairy. These are but a few instances of the grave dangers to which infants as well as adults are subjected.

For obvious reasons cow's milk must be the principal substitute for mother's milk when from any cause the child cannot be fed at the breast. It must also constitute an important part of the dietary of breast-fed children after they are weaned. It has been well established that the number of cases of cholera infantum and allied conditions in a community decrease in direct proportion to the purity of the milk supply. In the Highland brand evaporated cream, the physician will find an absolutely pure milk which can be modified to meet every indication. It is simply full-cream cow's milk evaporated and sterilized by a special process which improves its digestibility and insures an excellent flavor. It is manufactured under the strictest supervision and is absolutely germ free. It is the simplest, yet most complete food for infants not nursed at the breast.

### Catarrh of the Bladder.

Dr. A. C. Marquis, of Collins, Mo., says, "Your sample of Cystogen received a few days ago. I had a case of catarrh of the bladder with very disagreeable, ammoniacal odor of urine that had been giving me some trouble for twelve months. I gave the tablets with good results."

# The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

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Springfield, Ill., August, 1904.

{ SUBSCRIPTION  
{ \$3.00 A YEAR.

## VACCINATION. WHAT TO DO: HOW TO DO IT: WHAT TO EXPECT.\*

BY EZRA READ LARNED, M. D., CHICAGO.

Professor of Experimental Medicine, Dearborn Medical College; American Association for the Advancement of Science; Chicago Academy of Sciences; Etc, Etc.

Simple as the operation of vaccination seems to be, it requires considerable technical skill in its perfect performance, as a matter of fact, and an amount of theoretical and practical knowledge of the subject which is rarely appreciated.

Vaccination is a surgical operation, apparently insignificant in practice but extremely important in its results. Well performed, it saves many lives, prevents much suffering and sorrow; but indifferently performed, it either causes unnecessary pain and suffering or may lull one with a false sense of security as dangerous to society as the anti-vaccinationist.

Failure of active vaccine, properly inoculated, only means that the person vaccinated is at the time immune, but gives absolutely no information as to the condition a few months later. Susceptibility to vaccination frequently returns within one year of the time of a successful vaccination. Even small-pox does not always confer permanent immunity.

An infant should be vaccinated before it begins to be exposed to contagion outside its own home. The fifth month is the best time, as then the digestive habits are more settled.

Every child should be vaccinated during its first year of life and should be revaccinated before beginning school life with its possibility of exposure to infection. Every person, at whatever age, should be vaccinated at a time of possible exposure to small-pox un-

less he has been successfully vaccinated within three or four months.

To insure absolute immunity an individual must be revaccinated repeatedly.

Vaccinia is an infectious disease, characterized by local (and sometimes by general) symptoms, which result from the introduction into the blood of man of the lymph from the vesicle of kine-box, or small-pox as occurring in cattle. Persons successfully vaccinated are immune from small-pox. The local reaction of vaccinia is the vesicle, the contents of which, when inoculated into another person, may produce the same disease (vaccinia), conferring immunity from small-pox.

The English believe that vaccinia is small-pox, modified by transmission through the cow; this view is probably correct—that vaccinia is small-pox modified by passing through bovines. The French, however, hold that vaccinia is a distinct clinical entity, altogether unlike small-pox. This is neither here nor there, however. For our present purposes it is enough to know that a successful vaccination protects against small-pox, for a varying length of time.

Some people are rendered immune for life; in others immunity exists only for two or three years. The test is revaccination, which if successful, shows that the person was not immune, although if the vaccination is not successful, it does not follow that the person is immune. Everything depends upon the potency of the vaccine and the technique of its administration.

Laboratories exist in this country for the propagation of bovine vaccine or lymph, where under the most perfect sanitary precautions, as regulated by the federal government, inoculation is practiced upon the abdomen and inner surface of the thighs of young heifers; whence the lymph is collected and prepared for use. The vaccine is

\*Read at the 54th Annual Meeting, May 17, 1904.

subjected to bacteriologic examination to insure the absence of pathogenic micro-organisms, and also to a clinical test to determine its potency. The most modern manufacturers select samples at random from each lot of vaccine ready for the market, with each one of which three inoculations are made. If typical vaccinia is developed from at least thirteen out of fifteen inoculations, the manufacturers market that particular lot of vaccine from which the samples were taken—otherwise the entire lot is rejected.

The manufacturers of biological products, such as vaccine, are now under the supervision of the United States Government, which has promulgated rules to be followed before a license to manufacture and market is issued by the government, without which no one can engage in the business. As a result of these extra-ordinary precautions, a vaccine which is potent, reliable and free from septic contamination is available to all physicians.

Do not fail to vaccinate, or if your patients have been vaccinated some years since, to revaccinate them. Revaccination is the sign of an enlightened profession. Do it as a duty to yourself and others.

The operation of vaccination is variously performed. With a large experience, I have the temerity to state that there is one method only, which should be followed. In the first place, I absolutely taboo the use of all antiseptic substances of any kind whatsoever. Mild soap and boiled water, and a clean cloth or gauze sponge are all one needs or should use in preparing the site of inoculation. The point of election, through custom, is the insertion of the left deltoid muscle, although for cosmetic reasons, I always suggest the vaccination of young girls on the leg, just below the knee.

My habit is to gently scrub the site of the operation with soap and water, using the gauze sponge. I rinse the soap off with another gauze sponge saturated with boiled water and with a third sponge wipe the skin dry. Preferring the liquid vaccine, which is marketed in little capillary tubes, I express a drop from one of them onto the arm. The

instrument I like above all others is a large-sized, common sewing-needle, the point of which has been broken off and the resulting sharp edges dulled by rubbing over a file or a piece of emery paper, and sterilized in the flame of an alcohol lamp or a gas jet. The needle is held firmly between the thumb and finger; the second, third and fourth fingers resting against the arm or leg to support the hand and the left hand being used to firmly grasp the limb to make a little counter pressure.

Then, with a rotary motion, I rub the vaccine into and through the skin with the needle, working over a surface *not to exceed* one-eighth inch in diameter.

The smallness of the area inoculated has an important bearing on complications. The resulting vesicle is always larger than the inoculation and the smaller the vesicle, the less probability that it will be injured, that the crust will be disturbed and that infection will be permitted. Also, the smaller the original area, the less the possibility of introducing extraneous infections. A large pin-head represents the typical size of inoculation and it should, at least, always be less than one-eighth of an inch square.

Simple methods are usually the best and vaccination is no exception to the rule. Unless I am much mistaken, all the manufacturers of vaccine now place a large needle in each package of capillary tubes—a tacit recognition of the correctness of my position.

It takes somewhat longer to apply this method successfully, as prolonged friction is desirable to insure inoculation, but the results are just as certain and far more satisfactory.

Scarification, making half-dozen lines crossed at right angles with another half-dozen; using a sharp, pointed needle, a scalpel, or scraping the skin with a scalpel until the cuticle is removed, are the commonest methods, but they are barbarous, in my opinion. Frightening children and the ignorant, they are also painful methods, tend to cause unnecessarily large scars, offer a large field for the introduction of extraneous



substances and do not confer immunity in proportion to their size.

If these reasons are not enough, we may add that it is a disadvantage to have the field of operation bleed or exude much serum, as this interferes, through coagulation, with absorption. The procedure which some physicians indulge in, of puncturing the skin obliquely and working the lymph into these punctures, I also condemn, being unnecessarily painful.

Owing to its hygroscopic nature, glycerinated virus dries very slowly and the clothing should not be replaced until the vaccine has thoroughly dried. If the sleeve or stocking be replaced before the lymph is dry, perchance it is wiped off and no result follows. Antiseptic dressings should never be used. In fact, no dressing at all is needed except where there is danger of infection, from the environment or the personal uncleanness of the patient.

In accordance with the regulations, I vaccinated every recruit for the United States Army, while an examining surgeon in an army recruiting station, and while I would not have done it anyway, it gives me pleasure to state that the service regulations absolutely prohibit the use of any dressing of the primary wound of vaccination.

There are, however, a variety of so-called shields on the market the object of which is to allow the restoration of the clothing before the glycerinated lymph is dried.

A good style of shield is shown in the accompanying photograph. (No. 1.)

It is nothing but a light piece of colorless, transparent celluloid, two and three-fourths inches in diameter, round in outline, slightly bent into cup-shape to fit the arm and pierced by a few holes allowing circulation of air. In either end longitudinal slots are provided allowing a narrow piece of adhesive plaster to be drawn through to partly encircle the arm for the purpose of holding the shield in place.

Pieces of adhesive plaster are used instead of tape as the latter, unless very carefully applied and frequently examined, becomes tight, owing to the swelling of the arm, and restricts the circulation in a harmful manner.

Narrow strips of adhesive plaster which encircle the arm part of the way only are free from this objection.

Sometimes a shield may be used to protect a sensitive vesicle. A good rule to follow is to only use a shield during the two or three days when the inflammation is at its height. If the vesicle is injured or the crust disturbed, the treatment should be surgical and a dressing applied such as would be applied to the same wound if it were not the result of vaccination. Such treatment does not in the



FIGURE 1.

least lessen the immunity given by the vaccination.

It is almost a universal practice to use vaccine lymph taken from the cow, although now and then some sadly benighted individual will use human lymph, from a person having vaccine disease—a most reprehensible practice. I believe I know of two cases of syphilis which were conferred upon patients by the attending physician through this very act.

The chief reason for using bovine lymph is that the danger of communicating other affections, as syphilis and tuberculosis, is thereby greatly lessened. In addition, there is good reason for believing that immunity is more certainly secured through bovine than through human lymph.

Not many physicians know what a true vaccine vesicle looks like although it is the only reliable indication that the vaccine has taken; there is absolutely no other proof for or against the vaccine.

I show you a photograph (No. 2) of two typical, uninfected vesicles. The case was that of a young man, twenty years of age, who was *properly* vaccinated with glycerinated vaccine contained in small capillary tubes. The photograph was made eight days after inoculation. It may be asked whether two simultaneous inoculations are necessary and the answer is "no." One *typical* unin-

The period of incubation is subject to great variation. Its normal duration is three or four days. It may appear on the second day. In other cases the period of incubation is unduly prolonged, instances being recorded in which the papule did not begin to show itself until the thirteenth day.

In many cases the physician is led to believe that the vaccination has failed and has revaccinated and suffered the embarrassment of seeing the synchronous development of two vesicles. In other cases, no apparent reaction having taken place in seven or eight days, revaccination has been done with another vac-

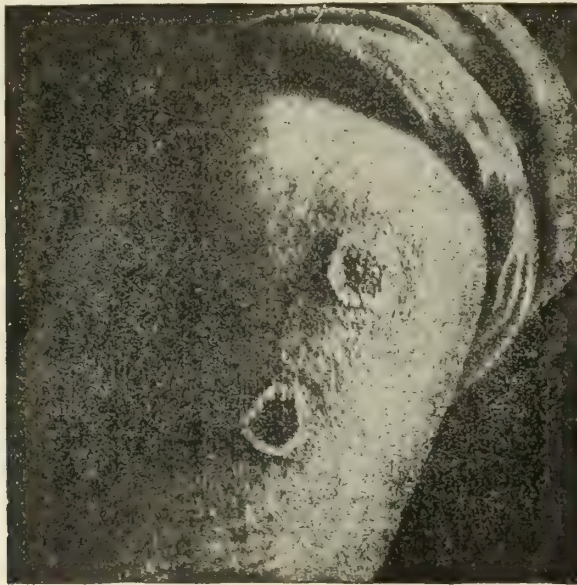


FIGURE 2.

fectured vesicle is as good as a dozen. The two inoculations in this case were made from the vaccine in one tube solely to make assurance doubly sure, but the second was not necessary at all.

Don't accept the word of the patient or the parent as to the success or failure of the vaccination. You, yourself, must examine the case and if you find a typical vesicle you may assure your patient of protection against small pox. Don't be in a hurry about passing judgment on a take. Sometimes the vesicles are delayed in their development.

cine and in due course of time typical vesicles result. In this case the physician does not know whether the successful result was due to the first or second inoculation and there is no way of telling. The umbilicated vesicle which is the sole proof of successful vaccination may appear anywhere from the seventh to the fourteenth day.

The progress of the typical vesicle, according to the books, is described as follows: On the third or fourth day after the vaccination a faint redness appears, which greatly increases while a reddish papule is formed

which varies in size according to the extent of the abrasion. On the fifth day the lesion begins to assume a vesicular condition. The vesicle greatly increases in size, the contained lymph being at first thin and transparent. On the eighth to the fourteenth day the vesicle reaches its greatest perfection. It is then elevated above the level of the skin. Even in the early stages of its development it has a distinctly umbilicated form. Around the

desiccation appears and from the fifteenth day on the desiccation is usually completed, although the crust does not fall off until the third and sometimes the fourth week.

On the site of the crust is found the scar, which is at first red, but in the course of some months becomes paler and finally becomes distinctly white. It is pitted and not infrequently presents radiating bands or stria of cicatricial tissue. This is the picture painted



FIGURE 3.

vesicle there is an inflamed area of greater or less extent which is called the areola. During the ninth or tenth day the redness increases, the inflamed skin becomes tender and the neighboring lymphatic glands frequently become enlarged and painful. Sometimes mild constitutional symptoms appear; slight chills, a temperature of one or two degrees, malais, anorexia, etc. On the eleventh to the fourteenth day the vesicle begins to fade,

by the text-books, but it is by no means the invariable rule, for in this as in every other disease, each individual is a case by itself.

Many patients pass through the regular course of vaccinia without any apparent systemic disturbance. Occasionally a macular eruption and bearing great similarity to measles may appear.

There are a few cases recorded of psychical disturbance seemingly due to vaccination.



Regis reports three cases in previously healthy individuals, two in adults and one in a child three years old: Delirium came on with the inflammatory stage and lasted from two to three days, subsiding with the occurrence of suppuration.

Pure vaccine should produce only a mild reaction. Violent symptoms, either local or constitutional, invariably mean infection, either from the vaccine itself, from carelessness in the operation or from infection of the wound after vaccination.

A hole in a man's arm half an inch deep, or a scar two inches in diameter proves only that infection, more or less serious, has occurred and does not afford any immunity whatever or protect against small pox. On the other hand, Jenner himself declared that a single vesicle imparted a full measure of protection.

Unfavorable results of vaccination are caused by a lack of skill or carelessness on the part of the vaccinator, or by not taking the proper aseptic precautions in this, the same as in any other surgical operation. No unfavorable results have ever been noticed when vaccinating with perfectly pure lymph, on an arm previously washed with soap and water and which had not subsequent to the vaccination been infected from outside sources. Negative results of vaccination are caused by carelessness or lack of skill on the part of the vaccinator or by inert lymph.

There is no such thing as non-susceptibility to vaccine.

Failure to obtain good results with vaccine is very frequently due to the deteriorating influence of heat or cold or strong light while in storage. If vaccine is exposed to freezing temperatures or excessive heat or strong light it may be rendered inert and failing the physician in his hour of need, be the means of causing an unjust reflection upon the product or upon the operator or upon the therapy involved.

The manufacturers of vaccine invariably do their best to put out perfectly pure active vaccine. As a rule, a physician does his best to vaccinate properly. Given a pure, potent vaccine and a careful physician, but a careless

or indifferent druggist who does not know how to store vaccine, the chances are in favor of negative results. It may not be amiss to digress long enough to give a few simple rules for storing vaccine which should invariably be observed if the product is to reach the physician in the same good condition that it left the laboratory.

Rule 1. Never store vaccine near a stove, radiator, hot air register, or steam pipe nor on an upper shelf in a warm room nor where strong light will fall upon it.

Rule 2. Place the packages of vaccine on a layer of cotton or other soft material in a clean, dry, glass jar, closed securely and placed in the ice box, but do not let it touch the ice.

Rule 3. If an ice box be not available, select a cool, dry place where the temperature does not rise above 60° F. or fall below 40° F.

The time of life of vaccine when kept in the dark, at a constant temperature of about 45° F. is exceedingly variable and all the causes of variability are not known, but the vaccine may be expected to continue active under these conditions at least three months. Sometimes virus originally active has failed within a few weeks after collection, but such failures are quite rare.

The question of the action of glycerin on vaccine lymph is a perplexing one and to a great extent unsettled. The primary purpose of adding glycerin to vaccine is to kill or attenuate the growth of the pyogenic organisms contaminating all vaccine as it comes from the animal. Vaccine without glycerin is very likely to contain so great a number of bacteria as to cause inflammatory reactions of such severity that an ugly ulcer with a great amount of swelling and pain may result without any immunity being conferred whatever. An examination of the various reports which have appeared from time to time in the medical periodicals shows that it is impossible to state positively whether the diminished potency of vaccine as it is noticed from month to month is due to the gradual attenuation of the vaccine organism because of the addition of glycerin or whether it is an inherent property of the vaccine itself. Certain

it is that it has always been noticed that vaccine without glycerin gradually loses its activity and the same holds true with glycerinated vaccine. The results obtained from the use of glycerinated vaccine are much more satisfactory than those obtained from the use of vaccine which does not contain glycerin.

The whole question is so much involved by the contentions of various observers that it is well nigh impossible to make positive statements on the subject. Efforts have been made to substitute solutions of Potassium cyanide and Chloroform for the glycerin, but while the laboratory experiments are encouraging, sufficient progress has not yet been made to warrant definite statements as to their value.

For the benefit of those who do not know but may be curious to learn how vaccine lymph is propagated, I will give a brief outline of the process which is now in quite general use in this country and which has received the approbation of the United States Government officials. Healthy heifers about eighteen months old, or calves from one to three months old, are purchased and sent to the isolation stable. The animal is first carefully examined by a competent veterinarian for any evidence of disease, internal or external; a small ring-worm being enough to condemn it. The tuberculin test is applied in every case and any animal which exhibits a suspicious rise of temperature is rejected. The mallein test is applied and any animal in which there is the slightest suspicion of glanders is also thrown out. When the animal is finally pronounced to be acceptable it is taken into the preparatory room and scrubbed from head to foot with warm water and soap. It then passes into the operating room, which is to all intents and purposes similar to the best operating rooms in the best hospitals. Here, with the aid of convenient apparatus, the animal is placed upon its back on a table, the abdominal surface thoroughly washed, lathered and shaved. Then, after a final washing with sterilized water, it is ready for scarification, which is performed with sterilized instruments in such a manner

that vesicles and not scars will form when the seed is inoculated.

The seed vaccine is then applied, thoroughly rubbed in and permitted to dry. The field of operation is either left intact or covered with a protective bandage. The animal then passes into the propagating room where it is kept until the ripening process is complete. During the stay in this room all excreta are instantly removed by men who are constantly on hand for this purpose. When the vaccine vesicles are ripe, the animal must once more submit to a scrubbing like the first and then again enter the operating room. The dressing, if any, is removed and the field of operation is cleansed with sterile water. The pulp of the vaccine vesicles is carefully collected with sterile curettes and placed in sterile containers. After the animal has returned to its normal condition by reason of the wounds healing and the hair growing out, it is disposed of according to the exigencies of the situation.

The vaccine is taken from the operating room to the laboratory and is run through sterilized glass grinders until a homogeneous mixture is obtained, the glycerin being added during this process. The vaccine is then examined bacteriologically, by placing samples of it upon various culture media which will insure the growth of germs if any are present. This test must give negative results so far as pathogenic germs are concerned. The presence of a few benign bacteria will not invalidate it. Injections into guinea-pigs and white mice are also made to definitely establish that no pathogenic germs are present. The so-called physiologic test consists of inoculations made upon heifers. The clinical test consists of inoculations made upon human beings who have never been vaccinated before. This latter test must be successful in every case or else the entire lot of vaccine is discarded. After these tests are finished, the vaccine is placed in sterile glass tubes or on ivory or glass points. The capillary tubes are sealed hermetically under a glass flame and the points are nowadays put into separate glass containers. The packages are



placed in the refrigerator and kept there until placed on the market.

I gratefully acknowledge my indebtedness for material assistance in the preparation of this paper to Dr. Hugo Erichsen, of Detroit, Dr. John A. Huddleston, of New York, Dr. Heman Spalding of Chicago, and various medical works.

If my somewhat presumptuous statements only serve to awaken a better understanding of this most important subject, I will be well content.

345 South Marshfield ave.

#### Discussion on Dr. Larned's Paper.

**Dr. Wm. E. Quine, Chicago:** There is one point in this very excellent paper that attracted my attention, and which, if it can be strongly and conclusively supported, will necessitate the rewriting of the entire subject of vaccination. The point to which I wish to direct attention is the statement by the essayist that a single point of inoculation, not larger than the head of a large pin, will accomplish as much in the way of conferring immunity to smallpox, as a dozen points of inoculation or vaccination.

I challenge the correctness of that statement. I think it has been demonstrated conclusively, first of all, by the observations of Trousseau to be untrue. This very careful observer conducted a series of observations in which he inoculated the same individual every day, day after day, until, at length, the time was reached when no effect resulted from the inoculations. And it was shown that the vaccine operated with gradually diminishing effect to the sixth inoculation, which was without any result.

Every modern textbook on the practice of medicine, that expounds the subject with any degree of minuteness, shows tables controverting the very point the essayist seeks to make—that one point of inoculation is as good as a dozen. There is hardly an authoritative textbook in existence that goes into the subject at all fully, which does not show the percentage of failures or imperfect protections resulting from one vaccination; a considerably smaller number of failures resulting from two inoculations; a still smaller number following three inoculations, and almost none following four inoculations when made on the same day.

And the practice of our European brethren in this respect, which shows nearly always two or three or four good large scars on the arm of the patient, who is considered thoroughly vaccinated, attests the trend of opinion in relation to this subject on the part of those who, generally, are considered most competent to express an opinion. Saturation of the system with the elements of the vaccine virus is necessary to afford full protection.

If the individual is vaccinated again and again, and again, as in the series of observations made by Trousseau, until vaccination produces no reaction, then, and not until then, is the maximum protection conferred upon the individual.

**Dr. Larned,** closing the discussion: I am very glad, indeed, that Dr. Quine has said what he did, because he has expressed the opinion held by many eminent men of today. But, so far as the modern textbooks on practice are concerned on the question of vaccination, I will say that I absolutely deny that they are authoritative on the subject. I claim that the experience of men who are engaged in vaccination day after day, men who know all about vaccination, how it is done and how it should be done, is worth more and their opinions are more nearly correct, than is the case with men who have recourse to libraries and who accept the statements of men who have had no practical experience, merely giving their opinions and evolving theories which are far from correct.

I have had some little experience with vaccination, and one of the staunchest supporters of my contention is Dr. Heman Spalding, the Chief Medical Inspector of the Chicago Health Department, than whom there is no more authoritative man on the subject of vaccination. He has held out all the time against revaccination or simultaneous vaccination.

If any one thing has been definitely established it is the necessity of vaccination, properly performed. Dr. Quine and I do not differ materially. I would rather that a physician vaccinated a patient a dozen times over, and have a big scar each time, than not to vaccinate him at all, which I consider a crime against society. At the same time, I do claim that when a person comes to you and says that he has been vaccinated repeatedly, and shows the scars to prove the correctness of his statement, that by no means proves that the vaccination was successful. It proves merely that a pus infection occurred at the time of vaccination.

Vaccination does not require any such torture as that. You can confer immunity to small pox by making a very small abrasion, not larger than one eighth of an inch. It has been done not only once or twice, but hundreds and thousands of times. It is a positive fact and not a theory.

Nothing lies like statistics. That has been shown time and again. Even though European investigators may have shown such results as those mentioned by Dr. Quine, I still maintain the correctness of my statements as made in the paper. I have seen men who were vaccinated apparently successfully, to judge from the scar, and yet three months afterward they submitted to a revaccination and another good result was obtained.

A short time ago, while explaining the subject of vaccination to my class, I called for volunteers for the purpose of demonstrating the operation. One of the students told me that he had been vaccinated within a year by a very prominent physician in Chicago, and that he was immune. I revaccinated him and inside of



a week he had a beautiful "take," so perfect that I exhibited him to a class to illustrate a typical take. The vaccination was not larger than one eighth of an inch in diameter, yet it was a perfect take, and that within a year after a previous vaccination that was supposed to have conferred immunity.

### A UNIQUE CASE OF IMPERFORATE HYMEN.\*

BY C. B. HORRELL, M. D., GALESBURG.

Any case of imperforate hymen may justly be termed unique; hence, the *adjective* in my topic. And, although long since the sanguinous sheet of the nuptial bed has ceased to be requisite evidence of virginity, yet such cases do occur, and that we may be on the alert for them is my excuse for reporting the following case:

On January 2, 1904, I was called to see Miss A. B., aged fifteen years and four months, a girl well developed for her age and of semi-athletic tendencies, being fond of a bicycle and climbing hills, jumping the rope, etc., of sturdy careful parentage, her mother being in most things solicitous for her girls, of which she was the mother of two, the subject of this report being the younger and her sister two years older in whom for two or more years the menstrual flux had been established normally and without any extraordinary incident. The grandmother who made her home with the family was and for many years had been a *practical*, but not *graduate* nurse, doing much obstetric work, and really quite well versed upon incidents likely to occur in female life from childhood to menopause.

The parents were well to do and I mention the foregoing to emphasize the environments of my patient as being almost ideal, and where in all reasonableness the conditions found later, which furnish the text of this report, might have been discovered earlier. For about two years I had been the family physician but was rarely asked to prescribe for this girl and then usually for some trivial sickness, which passed away in a day or two. I had on one or two occasions inter-

rogated the mother as to whether or not the menstrual flow had appeared, with always a negative answer and the expression that she guessed "that would come along in due course of time" and I admit I was supremely indifferent about the matter as her mother as no serious symptoms appeared.

Upon the day I was called the patient was complaining of considerable pain in the sigmoid curve of the colon and was constipated, had a headache, a furred tongue and slight lumbar pains, temperature normal. By palpation of the *left side* of the abdomen I found the lower colon loaded with fecal lumps and ordered an enema, which gave immediate relief to quite a degree. I gave small doses of soda and calomel to relieve the bowel further and expected that on the following day the patient would be well. Some hours later same day, the mother phoned me that her daughter had difficulty in voiding urine, only securing a very little at each effort and attended with considerable pain. I ordered a diuretic and warm moist cloths applied over the bladder, which relieved her very considerably. On the following day the mother called me to the home stating that her daughter seemed better generally, but that a new condition had appeared. Arriving at the home, the mother met me in the hallway and I could see she was much agitated and very anxious over having discovered just above the pubes quite an enlargement and that she had never discovered it before and that the patient said she had not, and requested me to be very careful in making the examination and give no diagnosis before the girl if it was anything serious. On examination I found a pear shaped tumor extending above the pelvis, tense and resisting and as large as a gravid uterus would be at the fifth month. That the tumor must have existed the day before when I called and that I did not discover it was somewhat embarrassing to me. Although my attention had not been directed to that region by any line of symptoms, but there it was and the question presenting itself to me was, *what is it?*—a gravid uterus, a fibroma, an ovarian cyst, a distended bladder or a blood tumor result of imperforate hymen?

\*Read by title at meeting of State Medical Society, May 17, 1904.

That I might be enabled to make an exhaustive examination should it be necessary, I excused myself and going to my office, returned with a surgical case and immediately proceeded: first, to see if there was an imperforate hymen. I found the labia majori separated nearly an inch and presenting a cystic tumor, pouching and even with the line of the vaginal lips. To be absolutely certain that the tumor was not a distended bladder, which it resembled very much, I catheterized the patient securing only an ounce or two of urine, and fully establishing a diagnosis. I incised the membrane and the pent up fluid spurted with such force over the top of a chamber, I intended as a receptacle, to the distance of three or four feet, and yet I secured fully two quarts of tarry grumous blood in the vessel. No shock or blanching of patient occurred and she immediately expressed absolute relief. Antiseptic irrigations were ordered for the vaginal pouch and since the girl has been quite well, and regularly menstruates.

For over twenty years I have enjoyed quite an extensive practice and this is the only case of *absolute vaginal* occlusion by the hymen that I have seen, and in questioning some of my colleagues on the subject, many admit never having seen a case. I have authority, therefore, for asserting its extreme rareness.

We may therefore, learn that such cases are occasionally met and be on the alert for them and during the period of adolescence in girls if there are any symptoms indicating an effort on nature's part to establish the menstrual flux, we should not consider our examination complete until we ascertain whether there is an imperforate hymen. And this report will, I hope, influence my hearers as it certainly has myself to be more thorough in the matter of an examination even in apparently slight ailments. For had I been more careful on my first call and examined the abdomen thoroughly instead of simply the *left side*, and that under the sheet, I would have discovered the tumor myself instead of the patient or mother doing so. Had a spontaneous rupture of the membrane

occurred and the patient been on her feet or even in bed, the sudden escape of a half gallon of blood would have been alarming to the patient and her relatives and certainly would have placed the physician in a compromising position.

## THE PHYSICIAN AND THE STATE.\*

BY GEO. W. WEBSTER, M. D., CHICAGO.  
President of the Illinois State Board of Health.

MR. CHAIRMAN: The terms of this toast assume that there is a relationship between the medical man and the State. I wish to state at the outset, that it is a generally accepted fact among both the profession and the laity that there exists a prejudice against the physician's participation in any activity outside of the routine of his daily professional labors. It is taken for granted that a doctor should be a doctor and nothing else, that he should be eminent only in his Art. It is against this dogma that I wish to enter an earnest even though a feeble protest. I crave your indulgence therefore, while I talk to you for a few minutes in regard to State Medicine. *What is State Medicine?* While definitions may seem trite, I find that there is a general want of knowledge in regard to what really constitutes State Medicine. State Medicine may be defined as the connection of the state with that branch of Science which relates to the prevention, alleviation or cure of the diseases of the human body. It is "the application, by the State, of medical knowledge to the common weal, and embraces every subject for the comprehension of which medical knowledge, and for the execution of which the Legislative and Executive Authority of the Government are indispensable." "The authority of the state is the inherent plenary power which resides in the state to prohibit all things hurtful and to promote all things helpful to the comfort and welfare of Society." It is a part of the police power of the state.

The work of State Medicine relates to medical education, quarantine, sanitation,

\*Response to toast at banquet Zeta Chapter Nu Sigma Nu Chicago, April 30, 1904.

education of the people in sanitary laws, the organization and maintenance of Institutions for the sick and infirm, hospitals, dispensaries and sanatoria, asylums and educational institutions for idiots and feeble minded children, for mutes and the blind; public hygiene and preventive medicine.

State Medicine began in England only a little over 50 years ago and had its commencement in the United States with the establishment of the State Board of Health of Massachusetts in 1869 and by the creation of the Illinois State Board of Health in 1877. There are now 69 Boards of Health and Examining Boards in the United States. State Medicine is thus, at least in the United States of strictly modern growth. It will be seen to comprehend the systematic effort to work out certain reforms, to protect the public. It is an organized, consistent and persistent effort toward the accomplishment of well defined ends, in which the rights of the State are derived from the duties of the State.

We might next inquire, "what has State Medicine accomplished in the United States?" In the first 75 years of our National History, comparatively little was accomplished, and all efforts to secure the enactment and enforcement of wholesome, sanitary laws, and laws governing and controlling medical education and practice, were largely failures, because the profession was unorganized and ununited. Gradually as the child of necessity, the Marine Hospital Service was evolved, laws regulating medical education and practice were passed by all the States, and Illinois being a pioneer in this direction. Congress provided for the annual conference of State and Territorial Boards of Health, and organized the United States Public Health and Marine Hospital Service, by which practical co-operation is secured in suppressing epidemics, preventing others, and maintaining quarantine. A National Confederation of State Medical, Examining and Licensing Boards, was organized 14 years ago, for the purpose of improving and raising the standard of medical education and providing for interstate reciprocity in Licensure. International sanitary conventions

have been held, there has been established state supervision of foods and water supplies, and infectious diseases have been placed under sanitary regulations. The study of hygiene has been introduced into the public schools, school inspection established and maintained, the net result according to Mulhall's statistics being, that the "span of life has been lengthened six years since 1880," an act for which the people stand indebted to the genius and disinterestedness of the medical profession. How has this been brought about? Chiefly because there have been men in our profession, both at home and abroad who have been larger and broader and deeper than mere doctors. They have been men imbued with the true professional spirit; and what do we mean by the true professional spirit? Ruskin classes the soldier with the professions, because he holds his life at the service of the state." What is the essential difference between the laborer or tradesman or business man on the one hand and the professional man on the other. What is it that characterizes the true professional man and ever after distinguishes him from the tradesman or the business man? I think the real difference is the following:

With the tradesman or the business man or one engaged in any commercial pursuit, it is a question of wages. With the true professional man, whether teacher, physician, minister, lawyer or soldier, our estimate is based on this ultimate fact of which we are well assured, that if we place him as the soldier is placed in the fortress breach, whether it be in war or pestilence or famine, with all the pleasure of the world behind him and death and his duty in front of him, he will keep his face to the front. He will follow his duty, no matter where that duty may lead. The true professional man looks first at the service and if there comes a conflict between his work and his wages, between his fee and his duty, he turns his back upon the fee and faces his duty, he "holds his life at the service of the state." It is this which causes the people almost unconsciously to hold the real professional man in the degree of honor and respect seldom



bestowed upon the tradesman. This is above all, the mark of the true physician.

I love to think that in other countries as well as in our own there have been men with these high ideals; and yet when I think of Koch and Pasteur and of Behring and of Lister and of Haller, it gratifies me to know that Haller, who was perhaps the foremost physician of his country, and, next to William Tell, the foremost citizen of his country, was not only a physician but a scientist, a botanist, a poet and a legislator. It pleases me to think that Virchow, the little Pomeranian was for 40 years a member of the Prussian Diet and that he will probably be remembered longer for his citizenship, for his true professional spirit than for his work in science.

When we turn to our own country, it is with feelings of pride that I remember the work of Warren at Bunker Hill and Rush at Valley Forge. It is pleasant to reflect that of the provincial Congress of Massachusetts in 1774-4, 22 of its members were physicians.

Dr. Samuel Prescott was the man who had the courage to take that famous midnight ride with Paul Revere. Five of the members of the Continental Congress who signed the Declaration of Independence were physicians. To one of these, Dr. Benjamin Rush, a monument will be dedicated this year in the city of Washington.

While brilliant work has been done and inestimable service rendered in all branches of medicine, such as quarantine, medical legislation, medical education, sanitary work and investigation, proper housing of the poor, it is in that branch of medicine known as preventive medicine that the work has been done that is of the greatest service to mankind.

We turn from the work of Guthrie and Morton who made operations painless, and from that of Pasteur and Lister who made them safe, to a brief reference to some of these achievements in the line of preventive medicine.

A recent reviewer of a work on sanitary science says, that "with the single exception of the change effected by the acceptances of the theory of organic evolution, there has

probably been no modification of human opinion within the 19th Century, more profoundly affecting the general conduct of human life than that in our attitude toward the causation and prevention of disease."

Public hygiene and state medicine have become subjects compelling the attention of statesmen and affecting the welfare of nations. Sanitary law has been endowed with unusual privileges and powers, and sanitary regulations controlling the commerce of the civilized world have been debated in International Congresses. Sanitary science and preventive medicine, terms practically unknown before this century have become household words. Passing over the doctrine of artificial immunity, and the value of antitoxin as one of the grandest triumphs of modern medicine, and the absolute demonstration of Major Ross that the mosquito is probably the only means of conveying malaria to human beings; it is with especial pride that I speak of the work of Dr. Major Ross and Dr. Jesse W. Lazear, who, with Major Gorgas were members of the Yellow Fever Commission which was sent to Havana during the Spanish-American War, to investigate and if possible, to determine the cause of Yellow Fever and the means by which it is spread. Previous to that time, yellow fever caused from 500 to 1,000 deaths annually in Havana alone and had been doing so for nearly 200 years. It frequently visited the southern states, caused thousands of deaths annually and a vast amount was spent in useless infectual quarantine. As a result of their work it has been definitely and positively determined that yellow fever is not contagious and that it is conveyed only by the mosquito, and the Island of Cuba which has been scourged by this dreadful malady for 200 years has been almost freed from it. Not a single case of yellow fever has originated in Cuba in the last three years. Not only Cuba, but the southern states have been relieved of a danger which constantly threatened and often visited them, inflicting enormous damage and serious loss of life. As the result of their work, a multitude of lives have been saved, more indeed than were lost in the whole

Spanish-American War; a pestilence has been robbed of its terrors and an annual expenditure of millions of dollars shown to be unnecessary and useless.

At a recent meeting of the Conference of State and Provincial Boards of Health, it was unanimously resolved, "that the sanitary redemption of Havana is regarded as one of the most brilliant achievements in the application of sanitary science to public health work ever accomplished."

Dr. Reed was one of the greatest benefactors of his race and one of the greatest adornments of the medical profession. The results of his work are of the utmost benefit to mankind. His work even to the United States alone for the future means a saving in life and treasure that is cheaply paid for by the whole cost of the Spanish-American War. That war cost treasure and blood, but Dr. Reed's discovery is an adequate recompense for both. Dr. Walter Reed is dead; and while he did not die of yellow fever, yet he freely and unhesitatingly took the chance of doing so, notwithstanding that he was a sufferer from organic disease of the heart and so unable to obtain any life insurance.

Dr. Jesse W. Lazear died of yellow fever in Cuba, September the 26, 1900. Dr. Lazear entered the medical department of the army early in 1900 as an assistant surgeon. He was at once assigned to duty at Quemados, Cuba, and was made a member of the Commission appointed to study yellow fever and placed in charge of a laboratory at that place. I can best describe his work by quoting from a letter sent by the chief surgeon of the department of western Cuba to the surgeon general of the United States army.

He says, "Dr. Lazear has, for the past four months exposed himself with absolute fearlessness in the discharge of his duties. He has examined the blood of every case of yellow fever which has occurred at the Columbia Barracks during that time. Has immensely aided in prompt diagnoses which have been so important an element in the art preventing the spread of the disease and in our successes in the treatment of our cases. In the investigations of the Board, he

has shown the same courage, earnestness and ability which characterized all his work. Dying of yellow fever at the age of 34, he leaves a wife and two children the youngest of which he never saw as this son was born in the United States while he was in Cuba this summer." So we see that from Warren at Bunker Hill to Rush at Valley Forge, to Walter Reed and Jesse Lazear and Leonard Wood in Cuba, there has been in our own profession, an unbroken line of patriots.

Monuments and eulogy are for the dead, but no human speech can add anything to their fame, augment the gratitude, the grateful homage, the speechless reverence which should be given, and which we here offer as the loving tribute of a grateful profession to those dead defenders of a great nation, the martyrs of medicine.

Congress granted to the loving kin of Reed and Lazear, a miserable pittance in the way of a pension, but no Act of Congress can make restitution for so great a sacrifice; no recompense can reach them. *Humanity* and *Time* remain their everlasting debtors. They who had so often listened to the morning and evening gun, the daily salutation to the flag, that grand old flag which had been so interwoven with the dearest memories of their lives and colored all their acts with its lasting blue of *true fidelity*, they had been challenged by the deadliest unseen foe that ever lurked in the mire of a southern swamp. The world can scarcely know how brave they were; and yet they never knew defeat, they never shall.

While at the post of duty, just at a time when life was full of promise, when the tide of life was at its full, when the sunshine of hope and success were shining all around them, when the wreath of fame was almost within their grasp, when death seemed almost unnatural, it came in all its hideousness. Theirs was not mere bravery, but true courage, real heroism, more sublime even than the courage of the noble men who manned the Maine.

Meanwhile a patient and a patriotic profession, enlightened by the lessons of history, remembering the woes of war, forgetting not the ingratitude of Republics; offer

our own little tribute to these heroes of ours, swearing allegiance anew, taking new heart, ready for greater sacrifice, for nobler aims, for better service.

"The tumult and the shouting dies,

And the captains and the Kings depart,  
Still stands thine ancient sacrifice,

An humble and a contrite heart."

"Lord, God of Hosts, be with us yet, lest we forget,

Lest we forget."

We cannot expect to be the discoverers of chloroform or of a germ theory of disease; or the discoverer of the cause of yellow fever, and yet there is great need for earnest, conscientious effort and of work for the future along the lines of securing desirable, uniform Legislation in regard to Medical Education and the regulation of the Practice of Medicine, sanitary laws, vital statistics and all matters of public health. Let us then here highly resolve to be something more than mere doctors, mere dispensers of drugs, mere machines. Let us here highly resolve to take an interest, a human interest in correlated branches of knowledge, let us study the *social organisms* as well as the *human organism*; let us cultivate anything which will bring us nearer to our fellow men, broaden our intelligence and widen our humanity and extend our influence. Let us cultivate this true spirit of professionalism which is but another name for patriotism; and citizenship, and both are synonyms of that word for which this organization of ours stands, *Fraternity*.

#### RELATIONSHIP OF EXCRETION OF COMMON SALTS TO DROPSY AND RENAL DISEASES.\*

BY N. S. DAVIS, JR., M. D., CHICAGO.

About a year ago a communication by Widal and Javal appeared in *La Presse Medical*, upon "Cure by Dechloridation." The important items in this paper were the following: 1. 10 grams of table salt taken by patients suffering from arterio-sclerosis

and interstitial nephritis caused no discomfort. 2. Pronounced oedema was caused in patients suffering from diffuse nephritis by the same quantity of salt. 3. In one case experimented with for two months oedema varied in proportion to the quantity of salt eaten. The writers made oedema appear and disappear at will nine times in this case. They concluded from these observations that the administration or withholding of albumin is immaterial in the diet of sufferers from nephritis and that salt alone is responsible for oedema because the latter disappeared upon a meat diet when salt was kept out of it. They reasoned that salt should not be fed even to cows which were to supply milk to nephritics.

Since this paper appeared in print a considerable literature has sprung up upon the subject, and observations have been recorded from various countries which confirm the facts recorded by Widal and Javal.

I have been able to watch closely during the last winter only a few cases of diffuse nephritis, but I have been much interested to note in these that there was uniformly a small elimination of sodium chloride when there was much oedema and its increase in proportion to the disappearance of oedema. For example, a young woman who came to me from Northern Michigan with well marked chronic diffuse nephritis, extensive oedema and mild uremia voided only 540 c.c. of urine in 24 hours, containing 15% of albumin and 1.5%<sup>1</sup> of chlorides. She was put to bed, placed upon a milk diet, and given cathartics and alkaline diuretics. The daily elimination of urine steadily increased, so that two weeks after she came under treatment she voided 1500 to 2000 c. c. daily. The chlorides also steadily increased, so that at the end of the first week they were 2.5% at the end of another three days were 4%, and at the end of two weeks 6%. During the following three weeks they varied between 6 and 8%. Just in proportion as the elimination of chlorides increased, the urine increased and the oedema lessened and

\*Read at the 54th Annual Meeting, May 17, 1904.

<sup>1</sup> No. 80, 1903.

<sup>2</sup>These estimates were made with a centrifuge. The average normal per cent of chlorides determined by it is 8.



finally disappeared. After the first week of treatment an exclusive milk diet was not maintained; she was allowed breads, cereals, many vegetables and fruits as well as milk. I have notes of five other cases, several of which were much less oedematous and several were seen for so short a time that only the beginnings of improvement were observed, but in each the same reduced percentage of chlorides was found and increase in proportion to the disappearance of the oedema.

We can accept as a fact established by the observations of many clinicians in different countries that in chronic diffuse nephritis when oedema develops, the kidneys secrete less of chlorides and that a milk<sup>3</sup> or other diet containing no chlorides, or very small quantities, will cause the oedema to lessen and often to disappear and in proportion as it does the percentage of chlorides in the urine increases.

The production of oedema in Bright's disease has never been satisfactorily explained. A few years ago Loeb urged that oedema was dependent more upon osmotic changes than upon vascular pressure. He believed that metabolism became imperfect or unnatural because of a diminished supply of oxygen, and therefore soluble substances were produced, accumulated in the lymph spaces and caused a rise in osmotic pressure.

Widal offers the following explanation of the facts observed by him: That sodium chloride is not eliminated easily by the kidneys when they are subject to the lesion of chronic diffuse nephritis, and when eaten generously accumulates in the tissues, therefore, in order that it may not be abnormally concentrated in the lymph an unusually large quantity of fluid must accumulate in the inter-cellular spaces. In other words he believes that sodium chloride is the soluble substance which increases osmotic pressure rather than something resulting from modified metabolism, as supposed by Loeb.

It has long been known that in diffuse nephritis, both acute and chronic, the elimination of chlorides was lessened, and that

in interstitial nephritis it was variable but usually not so much diminished. It has also been known that salt was a constant ingredient of dropsical fluids. Gamge says that the inorganic salts in these fluids are similar in character and amount to those in the plasma of the blood. Various analyses show that the soluble salts vary from 6 to 9% and in hydrocele fluid the per cent of sodium chloride is six.

Even when salt is fed to animals or man in excessive amounts its percentage in the blood is not increased, or at least only temporarily for what can not at once be eliminated through the kidneys is stored in the lymph spaces of the tissues.

Widal and Javal<sup>4</sup> have recently reported experiments on three healthy men as to the effect upon their weight of a sudden change from a diet including large quantities of salt to one containing none. The result was a loss of weight of as much as 2 kilograms and of 10 or 12 grams of chlorides. It is evident therefore that an excess of chlorides in food will cause the retention in the tissues of a considerable amount of fluid even in health. In one case of Bright's disease they found that an increase in weight of 6 kilograms occurred before oedema was demonstrable. Therefore we can properly speak of a preoedematous state in which the lymph spaces are full but not so excessively full as to afford physical signs of oedema.

Levan and Causade<sup>4</sup> also gave an emaciated man with sound kidneys 2 eggs, 1 liter of boullion, 1 liter of tea and from 10 to 20 grams of salt daily, with the result that his weight increased 2 kilos and 600 grams. This increase ceased when the excess of salt was stopped, although his diet was made more generous.

Widal and Javal<sup>5</sup> in December last showed that the elimination of chlorides and urea did not run parallel. Therefore the kidneys may be comparatively impervious to chlorides and permit a fair elimination of urea and phosphates, or the reverse of this may be true. In one of the cases which I have

<sup>4</sup>Société de Biologie, Seance du 12 Mars 1904 (La Semaine Medical March 23, 1904).

<sup>5</sup>Seance 19 December, 1903.

<sup>3</sup>Milk contains about .15% of sodium chloride.

studied this winter one per cent. of urea and one of chlorides was voided at one time and .6% of urea and 3.5% of chlorides at a second and 2% of urea and 0.8% of chlorides at a third, although the diet remained the same during the time when these examinations were made.

It is therefore important that we study the power of the kidneys to eliminate chlorides as well as urea, if we wish to appreciate the effect of their disturbed function upon any patient's general condition.

In March last these same observers<sup>6</sup> reported a study which they made of the salt contained in the vomit of a uremic patient. They found that the amount of salt vomited during twenty-four hours was much in excess of what was eaten, therefore they concluded that so-called gastric uremia is an attempt at vicarious elimination.

In the production of oedema Laufer<sup>7</sup> urges that increased osmotic pressure due to accumulation of salt in the tissues is not the only factor for he found that when patients suffering from both interstitial and diffuse nephritis are put upon a diet containing little or no salt, blood pressure rose from 22 to 34 m. m. in the former and from 18 to 30 in the latter. He found that similar changes in arterial pressure occurred when water was drunk copiously. These changes in arterial pressure he believes help to increase the elimination of fluids by the kidneys.

In 1853 Wundt<sup>8</sup> found when a healthy man took no salt for five days that each day less urine was voided and that on the third day albumen appeared in it. In 1864 Rosenstein experimented with dogs and found that a great reduction in urinary chlorides due to abstinence from salt containing food was accompanied by albuminuria. In 1884 Lepine<sup>9</sup> showed on the contrary that intravenous injection of 7% of salt caused albuminuria. These apparently conflicting observations were not harmonized until during the pres-

ent year Castaigne and Rothery<sup>10</sup> took up the problem.

First they observed the changes wrought in bits of healthy renal tissue when the latter were allowed to soak in brine of varying strength. A salt solution freezing at  $-0.78^{\circ}\text{C}$  caused the cells of the kidney to stain most perfectly and to appear most natural. Solutions with higher or lower freezing points caused the epithelium of the convoluted tubules to become swollen so as to narrow or block the tubules; to become less granular and often vacuolated. In life and in health, as is well known, the percentage of salt in the urine is quite constant and practically that found in these experiments most beneficial to the epithelium. The glomeruli therefore when healthy permit only so much salt to filter through as is best for the cells lining the tubules.

Healthy animals deprived of salt uniformly developed albuminuria and usually on the second day. Microscopical examination of the kidneys showed swelling of the epithelium of the convoluted tubules, fewer granules in the cells and often vacuolation of them, changes similar in all respects to those produced by soaking bits of renal tissue in water or a solution of salt with a freezing point of less than  $-0.78^{\circ}\text{C}$ . They repeated the experiment of Wundt and found that an albuminuria developed in man as readily as in animals when he was deprived of salt. Why then is diffuse nephritis benefited by withholding salt from the food? Because enough has been retained in the tissues to permit of its continued excretion in quantities within the power of the diseased glomeruli and because its withdrawal checks its accumulation in the tissues and the consequent production of oedema. These same experimenters found that feeding animals unusually large quantities of salt also caused albuminuria and that injections of even small percentages of salt in animals which had nephritis precipitated fatal results.

Sodium chloride doubtless plays a considerable part, if not the chief part, in the oedema of heart disease and possibly in the

<sup>6</sup>Societe de Biologie seance du 19 Mars, 1904.

<sup>7</sup>Seance 13 Fevrier 1904.

<sup>8</sup>Über den Kochsalzgehalt des harns. Canstatts Jahresber u die Fortsch des gesamt Med.

<sup>9</sup>L'Albumenurie dyscrasique (Rev. de Med. 1884, p 911.

<sup>10</sup>La Semaine Medicale No. 38, Sept. 1903.

passive congestion of solid organs. I have long been impressed with the fact that in many cases of valvular disease of the heart with dropsy, the latter would not disappear until a strict milk diet was prescribed, although in all other respects the treatment remained the same. Moreover even milk must be given in very moderate quantity, not more than 6 or 8 glasses daily. This means the administration of very small amounts of salt. I have found the same thing true of passive congestion of the liver. I have supposed that the liver did not contract under cardiac tonics and depleting measures until the milk diet was established because a mixed and generous diet taxed it functionally. Possibly, however, the salt contained in the food has something to do with it.

Achard<sup>11</sup> explains the diminished or cured ascites due to cirrhosis of the liver, occasionally observed when patients are upon an exclusive milk diet, as a result of the withdrawal of most of the salt customarily eaten. He found in one case experimented with that much relief was obtained when salt was withheld and that the percentage of salt in the ascitic fluid varied with the amount eaten.

To two patients with ascites Widál<sup>12</sup> gave 10 grams of salt in addition to their usual food which caused in the first an increase in weight of 4 kilos and 550 grams in ten days and in the second of seven kilos and 100 grams in nine days. When the salt was discontinued their weights became stationary.

At least one case of phlegmasia alba dolens has also been promptly helped by withholding salt from the food eaten.

Evidently therefore oedemas of various origins can be lessened or increased by varying the amount of sodium chloride in food.

I do not feel convinced that other soluble substances may not have a similar effect in producing increased osmotic pressure and dropsy, but the numerous observations and experiments which I have cited, show that

at least sodium chloride is often the most important or only such substance.

In cases of oedema and especially of oedema associated with nephritis a diet should be prescribed which will contain no salt or a minimum amount. It may consist of small quantities of milk or only of foods rich in water, sugar or starch, such as fruits and rice or tapioca.

A year does not go by without a new discussion of the old subject, is meat or a proteid diet permissible in diffuse nephritis. I have long contended that this question was not to be settled by estimating the ability of the kidneys to eliminate urea or nitrogen, for the detrimental effect of meat and of a mixed diet is due chiefly to the toxic substances which it contains and especially to those generated by imperfect digestion and consequent fermentation in the gastrointestinal canal. But hereafter we must consider the salt contained in such food as one of the toxins. The proteid itself is rarely harmful unless the kidneys are almost functionless when all food should be stopped and water only given to the patient. Milk which contains a minimum of toxic matter, digests readily and does not easily undergo deleterious fermentation, is the best food for those having diffuse nephritis. Moreover a strict milk diet is always an abstemious one which will not tax organs already functionally inactive. Of proteid food, next to milk, eggs and oysters are least detrimental. But the smallest possible mixture of foods should be used until convalescence is established in acute cases and until marked improvement is obtained in chronic ones.

Not only is it necessary to consider salt in the treatment of dropsy and diffuse nephritis, but it is of possible aid in demonstrating the existence of interstitial nephritis in its earliest stage before albuminuria is established, when there is increased arterial tension, and when large quantities of urine of low specific gravity are frequently voided. If salt is given generously in such cases a temporary albuminuria will be provoked quickly, showing the lessened functional power of the glomeruli.

<sup>11</sup>Société Médicale des Hôpitaux Seance de 6 Nov. 1903.

<sup>12</sup>Soc. Méd. des Hôpitaux 6 Nov. 1903.



If the observations which I have brought together in this paper are confirmed by a wider experience we must conclude that salt solutions should be used hypodermically and intravenously with more caution and judgement than they have been in the past. Surgeons who are about to perform operations which may require the copious use of salt injections should study before hand not only the ability of the kidneys to eliminate fluid and urea, but also chlorides. Achard has recently described a patient upon whom he did a hysterectomy, which was followed by profuse hemorrhage, in consequence of which, in the course of twenty-four hours 10 liters of normal salt solution were injected. The patient died from oedema of the lungs and he asks the question, "did not the large quantity of water and salt possibly provoke the oedema?" The first effect of such injections after hemorrhage, or in collapse, is to fill the arteries and to make the heart beat stronger, but if the kidneys can not eliminate the water and the salt, oedema of the lungs is likely to follow.

Similar injections have been used in uremia, sometimes with good results, oftener in my experience with no results. These variations are probably explainable by the varying functional power of the kidney as regards elimination of fluid and salt. I should expect good results most frequently in uremia due to interstitial nephritis and least often in that due to diffuse nephritis.

Another point worth studying is the effect of a milk diet or better still of foods which contain no salt in averting oedema of the lungs in pneumonia. It is a well known fact that in this disease the kidneys excrete salt in small quantities and it accumulates in the diseased lungs in large quantities. No wonder that there is a tendency to develop oedema in these organs. Experience taught physicians long since that patients with pneumonia do best when given little to eat, and that of the simplest character, and when their bowels are kept moving freely. Undoubtedly the accumulation of blood in the veins and in the right side of the heart has much to do with causing pulmonary oed-

ema, for it can be averted now and again by venesection which helps once more to mechanically balance the venous and arterial blood. To be sure by this procedure some salt is withdrawn with the blood, but probably not enough to account for all the good which venesection does in selected cases.

### RADIO-ACTIVITY.\*

BY J. C. SULLIVAN, M. D., CAIRO.

So much bosh having been written and printed about Radium, that the general reader fears some careless manipulator might inadvertently drop a few grains of it and thereby hasten the crack of doom, but no such fears need be entertained, for the possibilities of such are as remote as that of the quack doctor or scientist amassing fame and fortune by their absurd and unethical claims, while on the contrary, when you find any physician in the twentieth century that sneers at electricity as a therapeutic agent, you may rest assured that he knows just as much about medicine and surgery as he does about electricity.

Actinium, polonium and radium are substances extracted from the metals Carotite, Gadolinite, Pitchblend, Uranium, Thorium, Vanadium and Ytterbium. Radium being the exponent of its class and when functional simply demonstrates radio-activity, fluorescence having no part in its function.

The question then is, what is radio-activity? A detailed account of an experiment with a photograph of a bunch of keys does not satisfy an enquiring mind, who wishes to know its nature, its source and function, the what, why, when and how.

In order to answer this, we must first consult that scientific ferret, the spectroscope which speaks constantly of hydrogen lines, not only in the sun's atmosphere, but in its corona at a distance of from 10 to 12 (minutes) above, far, too far, for any possible connection with the sun. It is also omnipresent in the spectrum of the stars and nebulae, whose bands are so broad and promi-

ent in character which together with its well known properties of being the lightest and most powerful refractor of all known substances, demonstrates it to be the medium of interstellar space.

An analysis of sea and land shows the earth is composed principally of oxygen, which according to Schoenbein, is composed of ozone, its electro negative, and antozone, its electro positive properties, these two combining to form the ordinary oxygen.

These elements in an incandescent state can be seen in the working of any static machine showing the blue ozone at the positive and the red hydrogen at the negative electrodes and the green antozone in Crook's tubes, these three being, according to Helmholtz the primary colors, while their elements are the origin of all matter and force.

One atom of hydrogen unites with one of ozone to form water, while one atom of antozone and one of hydrogen unite to form gaseous carbon, the quiddity of all force, light, heat, and electricity. Thus having a unity and trinity of matter as well as a unity and trinity of force. These two combining in definite proportions form every known element of the universe.

For primordial matter as it existed first in the beginning must have been the ultimates ozone, antozone and hydrogen, having all their intrinsic attributes and properties. Their potential, seminal and integrating parts, but without light, heat, weight, color or combination. After consecutive ion upon ion, while floating through space, they united by aggregation attended by explosion and expansion hurling through space blazing balls of compressed oxygen as the future suns; which with their worlds and systems of worlds, are now floating in that bright and beautiful river hydrogen, that flows by the throne of God.

One of these blazing orbs is our sun and from every portion of its surface are emitted gaseous carbon molecules not in rectilinear lines. But in curvilinear lines describing a double circle or figure eight (8), from east and west, from north and south, thus form-

ing the four great winds of heaven which return "whence they came."

That the sun's rays are electrical is now well known. These rays emitted are positive and carry the cosmic molecules generated in the sun's great laboratory and give the bright lines to the spectrum. Those returning are negative and carry atoms of hydrogen to, and as fuel for, the sun. They are the lines of absorption and give the dark bands of Fraunhofer's lines.

These gaseous, carbon molecules emitted from the sun acting as so many shuttles playing through the warp of hydrogen and carrying the woof of oxygen weaves every structure, from the tiniest crystal to the most complex and highly differentiated cell. Those rays emitted from the poles are magnetic in function, while those from the zodiac are electrical and when molecule by molecule are fitting to and fro through their inter-molecular spaces, in lines transversely and longitudinally and having eight rays in each inter-molecular space of  $1/12,500$ th of an inch in which to bombard each other, they produce, measure and change the wave length and undulations of light, color and sound and by their rapid alterations produce light, and demonstrate the electro magnetic system of Maxwell, and become the elastic, frictional and incompressible medium of Green and also demonstrates that the emission and undulatory theories of light and sound are both correct in as much as it requires both of them to produce the phenomena of either.

These carbon molecules according to the transcendental mathematics of Tait, measure  $1/250,000,000$ th of an inch in diameter and number three and one-half quintillions to the cubic inch. There is  $1/12,500$ th of an inch of space between them in which they can bombard each other with the velocity of 1,512 feet per second. That these molecules are carbon is evidenced in the fact that Prof. Huggins found the brightness of the sun was due to carbon particles in its atmosphere, from Dr. Hunt's research as to whether the source of the renewal of the perennial supply of carbon of our atmosphere must not be sought external to our planet and from the fact that the lines of the carbon bands in

the spectrum never shift even under pressure, although all others do and almost always towards the red.

These rays are those of force and not attraction, hence all things in our solar system are driven to a common center and not attracted by the mythical law of gravitation. These lines of force are driven to all matter, some are absorbed, stored and conserved as future energy, others pass directly through, which lines are the quintessence of radio-activity and are the property of every molecule of matter, some to a greater and more to a lesser degree, according to the crystallization or porosity of their masses of matter. Others are reflected, others refracted which become iridescent and when polarized produce fluorescence.

The earth is a magnet and the properties of magnetism may be imparted for a time to substances by rubbing them together or against a magnet, thus producing heat and changing the course of the refracted rays, just as radio-activity of radium, does to water or other substances by imparting its electro magnetic lines to them. We know that palladium will occlude 1,000 times its volume of hydrogen which can easily be recovered by gently heating the palladium, when we find the hydrogen so occluded has acquired far more active properties than the ordinary hydrogen, for it often combines with the hydrogen of the air and will unite with chlorine and iodine in the dark, as it is the bromide and chloride of the little brown powder radium that demonstrates radio-activity and fluorescence. The question then arises, what function has the haloid salts in fluorescence or phosphorescence?

We know that the sun's rays are the source of all energy. That each beam is composed of a luminous, thermal and actinic ray, that the prism disperses these into its spectrum with the actinic ray above the violet and the caloric ray beneath the red. That every band, from and including the caloric ray, to the green are positive and from the green upwards and including the actinic ray are negative, and that about the middle of the ultra violet ray region we find the carbon

spectrum and all its region is actinic while no part of the ultra red is.

No matter what particular property in a greater degree one form of electricity may have from another they are all identical each having all the properties of the other, and all reversable, that is; every kind of action that can produce electricity, electricity can itself produce.

Mechanical power turned into a dynamo produces an electrical current, while this electrical current turned into a dynamo will make the dynamo a motor. Its effect on the body is mechanical, chemical and physiological. It effects decomposition, recombination endosmosis and exosmosis, thus destroying tumors and abnormal growths, giving strength and vigor to the shattered nerve. The body itself being an organization of electro magnetic elements, its activities must be in consonance with electric laws.

Hence, neither radium nor any other form of radio-activity can produce any therapeutical results that cannot be duplicated by the true and tried X-Ray, the King of all.

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#### BACTERIURIA, WITH SPECIAL REFERENCE TO COLI BACILLURIA.\*

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BY ARTHUR R. ELLIOTT, M. D., CHICAGO.

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The constitution of human urine renders it an almost perfect medium for the growth and multiplication of lower forms of organic life. As a consequence, we find that to an unusual degree the urinary tract is subject to attack from bacterial forms of life, the resulting suppurative and infective processes possessing with hardly an exception the characteristic of excessive obstinacy. It is not the purpose of this paper to consider the bacteriology of the urine, but to discuss the comparatively little known condition termed "bacteriuria," the term being employed in the sense originally used by Roberts (*British Medical Journal*, 1881, Vol. ii, p. 359), to designate certain cases in which the urine is the seat of infection by microorganisms with-

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\*Read at the 54th Annual Meeting, May 17, 1904.



out the urinary mucosa sharing in the process.

Recent discoveries have added much to our knowledge of the excretion of disease germs by the kidneys in the various systematic infections. It has long been known that toxins were excreted by the kidneys in most, if not all diseases of infective nature, but until recently considerable difference of opinion prevailed as to the elimination of specific disease bacteria themselves, unless gross lesions of the kidneys existed; in other words, unless the filter was leaky. This point is now fully established. A breach of continuity of the renal structure need not exist. The most important of the infective agents eliminated by the kidneys in disease are the typhoid bacillus, bacillus coli commune, pneumococcus, and the tubercle bacillus. The typhoid bacillus is present in about one-fourth of all cases of typhoid fever, often in enormous numbers, in some cases the urine being a pure culture of the germ. The virulence of the bacillus is retained, being equal in one case observed by Richardson to that of a culture from the stools and internal organs. Pneumococci have been found in the urine in large numbers in pneumonia during the height of the fever (Kleinmann). The tubercle bacillus has been repeatedly demonstrated in the urine without pus being present in cases of miliary tuberculosis. Phillippowicz (Wiener Med. Blatter, 1885, No. 22) discovered the bacillus of glanders and anthrax in the urine of animals suffering from those diseases, and was able to cultivate streptococci from the urine in erysipelas and ulcerative endocarditis. Pyogenic cocci have been repeatedly demonstrated in urine free from pus, and Schweiger (Virchow's Archiv, Band 100, Heft 2) has proved that the urine of scarlatina and varicella may be contagious.

While this elimination in the urine of specific germs in infective systematic conditions undoubtedly constitutes bacteriuria in the broad significance of the word, it is not within the meaning of the term as ordinarily used in clinical medicine.

The term bacteriuria, as originally employed by Roberts and Ultzmann, and as understood in clinical medicine, is meant to

imply an infection of the urine by bacteria from some source within or adjacent to the urinary tract itself. A distinction is therefore to be made between such cases and those instances just reviewed, in which the urine acts as a vehicle for removal of disease germs from the system, and in which, except in rare cases, the urine is not the seat of their proliferation. For a clear understanding of the condition known as bacteriuria it is equally important to eliminate those frequent infections of the mucous membrane of the urinary organs in which the urine teems with bacteria thrown off from their nidus growth in the mucosa. The symptom known as bacteriuria may be defined as a condition in which bacteria are excreted in large numbers in a pus-free, acid urine, without any sign or symptomatic indication of cystitis or infective nephritis. The urine is cloudy, often lactescent when first voided, and gives forth a putrid, revolting smell, which has been likened by Moullin to the stench of stale fish. The turbidity of the urine when voided, and the penetrating offensive odor are the characteristic symptoms of the condition. The opacity does not settle to the bottom of the vessel on standing, and cannot be separated by sedimentation in the centrifuge or by filtration through paper, although the urine may be rendered clear by passage through a porcelain filter or by shaking with magnesium usta. The reaction of the urine is acid, and under the microscope the field is seen to be swarming with actively motile organisms. The sediment is small and contains no pus, or but a few rare pus leucocytes are to be discovered. Local urinary and general systematic symptoms are generally absent. In most of the cases observed this has been the rule, although a minority have shown vesical irritability, urinary incontinence (especially in children), and occasionally digestive and nervous symptoms have been present. The bacteria are mainly the bacillus coli commune, often in pure culture. Jeanbeau (Gazette des Hôpit., June 24, 1899) collected 67 cases from the literature, in 56 of which the bacillus coli commune was the infective agent. In the remaining 11, it was streptococcus, proteus, Hauser, or

*bacillus subtilis* alone or in combination. Barlow (*Deutsches Archiv für Klin. Med.*, Bd. 59, p. 347) gathered together from the literature and his own experience notes of 65 cases of bacteriuria. In these, *bacillus coli commune* was present 19 times—17 in pure culture, twice with staphylococci. Of the remainder, *sarcinae* were present in 22 cases, staphylococci in three cases; in the remaining two, undetermined bacteria.

In five cases occurring within the writer's experience within the past two years, the *bacillus coli commune* was the predominating bacteria, associated in three of the cases with common pus organisms.

Concurrence of clinical experience is in favor of the *bacillus coli commune* being present in the great majority of cases, frequently in pure culture, sometimes associated with pyogenic microorganisms. The importance of the *coli bacillus* in the urine may be easily over-estimated, because of the great frequency of its occurrence as a secondary infective element in suppurative diseases of the bladder and kidneys. In infective urinary diseases different forms of pus organisms may be abundantly present at first, and subsequently become entirely replaced by *coli bacilli*, which, because of their rapid growth, hide the original pathogenic microbe. This is undoubtedly the origin of many cases of *coli bacilluria*.

In the majority of cases of *bacillus coli* infection of the urine there seems no difficulty in understanding how the organism gains access to the bladder. The path of infection is apparently the urethra, since urethritis, instrumentation or injection have usually preceded the bacteriuria. The writer is inclined to reject the idea of a direct infection by way of the urethra, normal or diseased. Undoubtedly the frequently preceding urethritis stands in a certain causal relationship to the *coli* infection; not, however, in the writer's opinion, so much by direct infection of the urine *per urethram* as indirectly by preparing the soil through gonococcal involvement of the prostate and seminal vesicles, the subsequent *coli bacillus* invasion occurring from the rectum through

the lymphatics into the inflamed prostate or vesicles.

*Coli bacteriuria* is a comparatively frequent complication of gonorrhea, especially of cases in which the deep urethra and prostate have become involved. Fuller (*Diseases of the Male Sexual Organs*; Lea Bros. and Co., Phila., 1895) particularly has called attention to the frequent existence of *bacillus coli commune* in the seminal vesicles in chronic gonorrhea. This view of the invasion of the urinary tract receives support from the fact that operations upon the rectum, fissures, fistula and hemorrhoids, conditions involving a breach of integrity of the rectal mucosa, and prostatic congestion from irritation, predispose to *coli bacteriuria*, and in practical experience have been known to give rise to it without urethral aid. Additional testimony is afforded by the frequency of *coli* infection of the urine in prostatic hypertrophy during the later years of life. Moreover, the almost complete monopoly of this disease by the male sex incriminates the prostate and seminal vesicles.

That the bacteria in cases of bacteriuria find their way into the bladder by way of the urethra is negatived by certain well-known facts. The *bacillus coli* is one of the common inhabitants of the glans and foreskin, and of the vulva (in 50 per cent. of women, according to Melchoir), and Winslow (*Journal Med. Research*, Boston, Dec., 1903) has demonstrated its existence on the hands between five and ten per cent. of persons examined indiscriminately. Despite this ubiquitous prevalence of the germ, it has on investigation seldom been found in the normal urethra, or in that channel when diseased. It cannot, therefore, be counted as one of the common bacteria of the urethra. Moreover, statistics show that the *bacillus coli* is the infecting agent in most of the cases of bacteriuria, whereas staphylococci are comparatively seldom present. We would expect the reverse to be the case, if the infection of the urine were from the urethra, since the staphylococcus is a common, and the *bacillus coli* a rare, resident of that channel.

Barlow inclines to the belief that the infection often takes place from the bowels

by means of lesions of the rectum, citing as causes such factors as fissures or lacerations of the annus, fistula *in ano*, and even severe massage of the prostate and seminal vesicles through the rectum.

Posner is in favor of the intestine as the source of infection in preference to the blood. In fact, it is only in certain rare cases, where local causes seem entirely lacking, that it becomes necessary to adopt the explanation of Rovsing, that the germs find their way into the bladder through the medium of the circulation.

Even more necessary to explain than the source of the infection is its seat. The bacteria certainly do not live only in the bladder, or the difficulty of removing the condition would be much less than experience proves it to be.

It is difficult to account for the retention of these organisms in the bladder in immense numbers for months and years without exciting inflammation. This may be explained by the fact that the bacillus coli is not, under ordinary circumstances, a urea-decomposing bacteria, and consequently, as believed by Rovsing, is innocuous to the bladder so long as free drainage is maintained. This germ, however, it is well-known, differs greatly in virulence according to the source whence it comes, and it may be that there is some factor in its environment in the bladder which renders it to a large extent harmless to the tissues. The element which suffices to protect the bladder against infection is no doubt the periodic and complete emptying of its contents by micturition, so that the vesical epithelium is not subjected to prolonged contact with the bacteria. In cases where free drainage is interfered with, as, for instance, in prostatic hypertrophy, cystitis speedily results.

In many instances bacteriuria gives rise to no local or constitutional symptoms. As a rule, however, it is accompanied by a peculiar urethral discharge, which may be more or less constant, or only present after efforts at defecation. This discharge may be continuous with the gonorrheal flux which has persisted for an undue period and gradually lost its specific character. Quite as

frequently a decided and even considerable interval may elapse between cessation of the urethritis discharge and the appearance of that due to the bacteriuria. An important point is that this pseudo-gonorrhea resists all the usual means of urethral treatment. In three instances of bacteriuria under the writer's observation slight nocturnal and diurnal incontinence existed. If the infection is localized in the prostatic apparatus, the urine may present only intermittent cloudiness. Under such circumstances the first portion of the urine will be more or less clear, the second half being lactescent, or it may be only at the end of micturition, when there is energetic contraction of the peri-prostatic muscular fibers, that the urine shows the characteristic turbidity. In the experience of the writer the bacterial cloud in the urine may be greatly intensified by "stripping" the prostate and vesicles by means of the finger introduced into the rectum.

Irregular constitutional symptoms may develop during the course of a bacteriuria. Digestive and nervous disturbances, lassitude and intermittent pyrexia are frequent. The occurrence of fever in these cases may be explained on the hypothesis of Boyer and Guinard, that so long as the epithelium continues in a healthy state the toxins produced by the bacteria while in the bladder are not absorbed, but if the toxins from any cause such as deficient drainage become concentrated, the epithelial cells being kept in contact with noxious substances lose their vitality, and absorption takes place, with resulting systemic reaction. Under such circumstances, acute symptoms may arise which may even closely simulate typhoid fever, giving, however, no Widal reaction, but showing many coli bacilli in the urine.

The diagnosis of bacteriuria rests upon the presence in the freshly voided urine of an opalescent cloud which cannot be removed by acidulation, filtration or sedimentation. The disgusting fetid odor of the urine is characteristic, and under the microscope large numbers of actively motile bacteria are to be seen. In cases in which the prostate or seminals are the seat of the in-



fection, they are found to be tender to palpation, and yield upon pressure a milky fluid which drips from the meatus, and which, if caught upon a glass slide and stained, is found to be a rich bacterial culture, principally of bacillus coli commune.

The prognosis of bacteriuria depends on the nature, seat and severity of the infection. The condition is always obstinate to treatment—seldom is recovery rapid and complete. In proportion to the extent which the prostate and seminal vesicles are infected is the prospect of recovery prejudiced. The cases in which no infection of these organs can be made out are distinctly more favorable. A strong tendency to relapse exists, and must be considered in framing a prognosis.

An important part of the treatment of bacteriuria consists in the improvement of the patient's general condition by hygienic measures, a full generous diet, careful regulation of the emunctories, and the administration of iron and other tonics as they seem indicated. Urotropin (hexa-methylene-tetramin) should be given and continued perseveringly in a routine manner, from twenty to forty grains daily being administered, in divided doses.

Local treatment consists in the correction of any local complication which may exist. Urethral stricture, hemorrhoids, rectal fistula and fissure should be searched for and treated when found. Free drainage from the bladder is most important, and if from any cause, such as prostatic hypertrophy, the bladder is imperfectly emptied by natural means, the catheter must be employed.

The prostate and seminal vesicles should be carefully examined as to size, tenderness and consistency, and the character of the "strippings" from these organs is to be carefully investigated bacteriologically. If the prostatic apparatus is found to be the seat of infection, the greatest benefit will result from local treatment of these organs. Gentle massage of the prostate and stripping of the vesicles by means of the forefinger introduced into the rectum should be systematically carried out once every four or five days. The greatest gentleness must be em-

ployed in performing these manipulations to avoid setting up local reaction through traumatism. A clean sigmoid and colon is to be provided for by means of periodic high enemata taken in the knee-chest position. Local stimulation of the deep urethra by means of silver solutions appears to be of little avail. If the bladder is irritable, or pus leucocytes exist in the urine sediment, lavage of the bladder, with mild antiseptic solutions, is indicated.

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## THE MEDICAL TREATMENT OF PUERPERAL ECLAMPSIA.\*

BY H. H. WHITTEN, M. D., PEORIA.

Whatever the school of medicine or the means adopted, the prime object of all medical treatment is the prolongation and preservation of human life. This finds its highest expression not in any brilliant surgical operation, tho fame and fee attend, or even in painstaking, scientific therapeutics, but in the prevention of that which shortens or destroys life.

The treatment of eclampsia begins, then, no more with the attack, speaking broadly, than the duty of the obstetrician begins at the time of labor, but begins when the services of the physician are first engaged, and continues until the puerperium is safely passed.

The relation of physician and patient should begin early in pregnancy. The woman owes it to herself and her unborn to consult the physician. The physician owes it to them and to himself to be a wise counsellor. So preach we all of us, but so practice very few of us. We are handicapped in many instances by the failure of the pregnant woman to know and do her duty. For example, I note that in a hundred consecutive cases in my practice, which may serve as an average for the general practitioner, but 20 were seen early in pregnancy, 34 were seen in the last three months and 46, or nearly half, were not under my care until the time of labor. Another goodly

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number notify the physician and hear his advice, but heed it not being firm in the faith that it is not for them to meet with any such misfortune. This handicap can be greatly reduced by physicians who take care to advise patients fully of the serious possibilities that attend the pregnant and parturient state.

Fortunately for our patients and fortunately for ourselves many of us, in spite of this handicap, go from week to week or even from year to year without any serious results, but unfortunately for other patients and ourselves we are thereby lulled into a sense of false security. There is a gradual letting down of our watchfulness until the awakening comes, sudden and harsh.

Physicians do not need to be told so much what to do to cure or prevent eclampsia, since those things are quite generally agreed upon, but they do need to be told and retold of the necessity of using that knowledge which they possess.

Whatever theory we hold in regard to etiology, or whether we have none but leave disputations to others, we are agreed that it is in many cases a preventable attack. Let us then give to our patients no haphazard, general cautions, but let us advise them in detail as to the conduct of life, as to personal hygiene, proper clothing, proper diet, attention to the skin and other excretory organs, and as to the importance of regular methodical examination of the urine by the medical attendant. In this latter we most often find the early and sure danger signal. It is true that many women are attacked by eclampsia where we little expect it, or expect it not at all, while on the other hand a large number of women, in the latter months of pregnancy, have a considerable amount of albumin in the urine, and may have some oedema, local or general, and yet go through labor and the puerperium without any nervous disturbance. When however in the course of our examinations we find any marked albuminuria, whether or not it be associated with any other prodromata as disturbances of vision, epigastric pain and dyspnoea, we should at once take precautionary measures. This means we shall give the

patient rest in bed, secure free diuresis and catharsis, and establish, for a time, a milk diet, which diet can gradually be extended in quantity and quality.

Another matter in prophylaxis for which we deserve some censure is the unpreparedness with which we go to an obstetrical case even when we are advised of the nature of the call. While it may not be expected of all of us, however desirable it might be, that we shall attend with all the trappings of the obstetrical specialist, it is well nigh criminal to go to these cases absolutely unprepared for the many emergencies that may arise wherein the time lost in sending for drugs or instruments may mean a life lost. An obstetrical bag, with drugs and instruments for obstetrical work and to be used for obstetrical work only, which should be the rule, is only the exception which proves the rule and proves its value.

Once the attack is on medical treatment has two purposes, to quiet the convulsions and to remove thro every possible avenue the toxic substances that produce the attack. Important adjuncts to drug treatment are hospital treatment, when such can be secured, or, if not, a suitable room where absolute quiet can be maintained, a capable nurse and such measures as prevent the patient doing herself harm while in the seizure.

First of all drugs, because of its celerity and certainty is chloroform. While it is true it is a dangerous drug, tho much of the danger of chloroform is in the way of administration, and there may be as at any other time special contraindications, women, at these times, it seems to me, take chloroform with less of the various ill effects than under any other circumstances. It should be given to complete arrest of the convulsions and continued sufficiently long to permit of the action of other drugs which may be sufficient to control the nervous system, which drugs act more quickly thro the previous administration of chloroform. The time which chloroform may be given may not be arbitrarily fixed but must vary with the individual. In one case it seemed absolutely necessary that I should continue it

for four hours and I did so for that time without any untoward results.

Next to chloroform in rapidity and efficiency is the hypodermatic injection of morphine, and, unless contra-indicated, it affords a reliable control over nervous and muscular irritability. The *Therapeutic Gazette*, February 15, contains a note on its use by Dr. Hirst, and the number of March 13 a comment on that by Dr. Tyson, which articles are of great interest and value. Scientific work and clinical experience show that morphine is dangerous in cases of chronic interstitial nephritis only, and that almost all causes of eclampsia are associated with parenchymatous nephritis. In this latter condition the renal epithelium is capable of eliminating the morphine readily.

A further objection to morphine is urged in that it is antagonistic to the eliminative treatment which is essential to the cure. Care must govern its administration but as a rule it may be given safely in  $\frac{1}{4}$  to  $\frac{1}{2}$  grain doses and repeated three times if necessary.

Chloral and bromides, large doses of which may be given by the rectum, are next in value as nerve sedatives.

A most useful drug, the more used the better liked, the sine qua non of many practitioners, is *veratrum viride*, which may be given by the mouth or by hypodermic. For the relief of arterial tension and spasmodic contraction of the arterioles, reducing the rapid pulse, nothing else is its equal.

It contains no element of danger since any overdose is promptly rejected by the stomach. If the patient is conscious it may be given in doses of 5 to 20 minims, by the mouth, repeated ever half hour until the desired result is attained or nausea is induced. As large doses as this may also be given by hypodermic and 10 minims repeated in half hour if needed.

In eliminative treatment the introduction of salt solution by bowel, under the skin or intravenously, preceded by free sweating induced by hot packs and not by the administration of pilocarpin, is of the highest value. If the sweating be not secured before the salt

solution is given, the venous side of the circulation may be much overbalanced and so great amount of work put upon the right heart that death may follow. In many cases, not necessarily in the plethoric only, blood-letting is indicated as a preliminary step. A certain amount of toxic material is thereby directly removed from the circulation and the saline solution further dilutes the remaining portion.

To secure free catharsis a drop of croton oil should be given and if the patient is unconscious it may be placed in a little oil and placed on the back of the tongue. Great care must be exercised in the administration of drugs by mouth when the patient is unconscious lest a pneumonia result through the inspiration of foreign bodies.

Two drachms of a concentrated solution of magnesium sulphate may be given every 15-30 minutes if the patient is conscious. To these means may be added colonic flushings if the patient can be properly cared for.

To attempt to secure free diuresis during the attack is but to multiply dragging without additional results for good.

Symptomatic and consecutive treatment necessarily follow. Exhaustion, with pale face, weak, rapid pulse demands hypodermics of nitroglycerin, brandy, ammonia and ether. The crisis safely passed, the consecutive treatment must be eliminative and along the lines of prophylaxis that precede the attack, with such reconstructive tonics as may be needed.

I had hoped to speak strictly to my text, but I can not but say a word which touches on the surgical side, in reference to cleanliness, since cleanliness in the conduct of labor is a prophylactic as regards post-partum eclampsia which eclampsia may be as severe as any intra-partum attack.

We preach "Be Clean" in medical societies, and we read articles in medical journals magnifying its importance until we feel surfeited and perhaps get no further than the title. All men should know it and act upon it. To add infection to woman's many ills by wanton disregard of the most rigid asepsis is nothing short of criminal and uneasy must lie the head of him who can not hold himself blameless.



**Discussion on the Paper of Dr. Whitten.**

**Dr. Brown:** Mr. President—I had a case of eclampsia last week which was very interesting to me. One trouble about the preventive treatment is that the general practitioner cannot prevent these convulsions, because he is rarely ever or never called in time. If called when the eclamptic seizure is on, I think most ordinary practitioners will find that in three-fourths of their cases the head is not engaged, so we cannot help ourselves. We are called in an emergency. In the case I had last week I was called when the woman was in the midst of a convulsion. The treatment that has been described was followed out. The urine cleared up almost entirely, but the fetus was dead from the first convulsion, although the woman insisted that it was alive. In about ten days it was deemed necessary to take away the dead fetus. Twenty-four hours following this eclampsia returned, and in forty-eight hours the woman had almost as many convulsions, and was comatose until death occurred in spite of the treatment given.

I would like to have some of the members tell me why the albumin had almost disappeared, yet up to the time of removing the dead child it reappeared.

**Dr. A. K. Van Horne, Jerseyville:** I did not hear this paper, and I do not know whether the author advocated venesection or not in cases of eclampsia.

**Dr. Whitten:** Yes, venesection was advised in some cases, particularly in plethoric patients, as a preliminary measure.

**Dr. Van Horne:** When the eclamptic seizure is on and the physician is called in, the only thing to do, in my opinion, is to extract blood freely. I have known it to do good in quite a number of cases, with entire relief to the patient.

**Dr. Rudolph W. Holmes, Chicago:** Unfortunately I was not present when the paper was read. However, I have gone through the paper rather cursorily, and have been able to get enough out of it to know what Dr. Whitten has embodied in his paper.

There is no question but that the medical treatment of eclampsia is prophylactic, and when it comes to the eclamptic state, then operation is the procedure of choice in most instances. From the standpoint of prophylaxis, the essential thing is to begin treatment early. There should be supervision of the kidneys, regulation of the woman's diet, and see that elimination is being properly carried on, which is apt to be very deficient during pregnancy, and this can only be brought about by educating people to call in a physician at the beginning of pregnancy. Moriceau, in 1650, states that pregnancy is a disease lasting nine months. If it were true then it is eminently true now, when life is involved with so much that is artificial and unnatural. The kidneys must be stimulated; the diet must be regulated, and by not overworking the body functions we will to a considerable extent do away with eclampsia. I believe that where eclampsia normally occurs once in 250 cases, if the proper treatment is instituted early

there would only be one case in two thousand, or even less than that. When the patient gets to the convulsive stage, I do not believe in the use of chloroform to stop the convulsions, because by the time you see twitching of the face and get the chloroform mask in working order the convulsion is practically over. Of course, when you are operating, deep anesthesia by chloroform is better than ether, because it is less irritating to the kidneys. During the eclamptic seizure, and even before, the essential thing is not to give the patient chloroform, which replaces to a certain extent oxygen, but that oxygen should be given in the pure state. This, of course, can be done in a hospital, as a routine, but one can do much for the patient during the attack by opening windows, when permissible, so that such pure air can be obtained. The tongue should be protected by putting a cork or soft piece of wood between the teeth. Chloral and bromide can be given per rectum, and will do a good deal more towards controlling the convulsion than chloroform, even though slower in its action. I believe that morphia, while it reduces the reflexes which is essential, is injurious, because it reduces excretion, and it is excretion that is very essential. I am convinced that many of the eclamptics who lose their babies, where morphine is used, lose them from morphine poisoning. I have seen babies born after the administration of morphine that required protracted artificial respiration. These cases presented typical pictures of morphine poisoning. I do not believe pilocarpine is of much value. In fact, the only case in which I ever used pilocarpine the woman died. I think it is too depressing to be used at this time. Salt solution is one of the best things to be used during the pre-eclamptic stage, possibly accompanied by blood washing, that is, the salt solution is injected into one arm and venesection made in the other arm or it may be better to introduce a certain amount of salt solution, wait a little while, and allow a certain amount of blood to escape through the same incision.

A Russian obstetrician has reported 120 cases, according to his last report, with 6 deaths, really a phenomenal record, and 3 of them were in a moribund condition when he saw them. He believes that the essential thing is to give these women oxygen, morphine, and then let them alone. I was told once in Dublin that they relied on morphine, and a very few eclamptic patients died, but over in Edinburgh, in cases of eclampsia, they used morphine, and the patients died, so climatic conditions undoubtedly have some influence in the mortality of eclampsia.

**Dr. Charles S. Bacon, Chicago:** I agree with all the essayist has said with reference to the preventive or medical treatment of eclampsia, but in the management of convulsions I should feel like disagreeing with what he says in reference to chloroform. Chloroform has been used to a dangerous extent in the treatment of these convulsions. It is of no value during the attack. The only thing one can do during the convulsion is to keep the patient alive, if respir-

ation is endangered, and the only thing that can be done in these cases is to resort to artificial respiration or other measures that are known to obstetricians. For preventing convulsions chloroform or any anesthetic is dangerous. Morphine has proven to be very safe in my practice. It must be given, however, in carefully measured doses, and when so given within reasonable limits it will control the convulsions as well as anything one can use. Aside from that, the medical treatment of eclampsia must consist largely, if not exclusively, in elimination and in the use of oxygen. Elimination by packing and by cathartics and diaphoretics. Diaphoresis, however, is chiefly accomplished by packing, and the use of oxygen is a respiratory aid.

One of the greatest dangers incident to the eclamptic convulsion is that of heart failure. We know that the heart is seriously injured, as the result of eclamptic poisoning, and the final fatal result is due to the weakened heart movements and the heart is relieved by the use of oxygen. That is about the best cardiac stimulant we can give, so I would rather include oxygen as one of the most valuable features of medical treatment, and discourage the use of chloroform.

## DEFECTS OF VISION AND HEARING IN THE PUBLIC SCHOOLS.\*

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INGTON.

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There is among educators in the public schools a confessed need of proper instruction respecting the vision and hearing of the children under their care; and since state boards of health and school authorities generally throughout the United States are earnestly considering this matter, and practical tests are now being required of teachers, to ascertain if defects of vision or hearing exist among their pupils, this need is all the more urgent.

Experience teaches and statistics show that many children in the public schools are, in the pursuit of their education, laboring under the disadvantages of defective vision and hearing. Where such defects have been brought to notice, they have in most cases been remedied.

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## THE INFLUENCE OF FAR-SIGHTEDNESS ON SCHOOL WORK.

A child with keen intellectual faculties, if he is so unfortunate as to have a high degree of far-sightedness which is allowed to go uncorrected, should not be expected to do his school work comfortably nor to attain the proficiency in his studies that otherwise might be looked for by his parents and teachers. The child's ability to study is restricted. His opportunities are necessarily limited, and what he does accomplish is with pain and inconvenience.

The child does not realize his condition, for he cannot discriminate between good vision and vision that is defective. Because of the condition of his sight, he has never known what it means to see easily and well. How important it is, then, for parents to know the condition of their children's eyes! And it certainly is very desirable for teachers to know that their pupils are not laboring under the disadvantage of defective vision.

Every teacher understands that the proper use of the eyes, although to some extent an unconscious process, is an important factor in education. Indeed, the training of the eyes to observe carefully and discriminate accurately is, in itself, an educational process. About ninety per cent of our sense-perception comes to us through sight, and if in a child this function is impaired, his ability to become acquainted with the external world is likewise impaired.

In the education of children the presentative powers or the perceptive faculties are, properly, the first to receive attention, and in their training the vision is appealed to many times more than any of the other senses; hence the necessity for the child to acquire habits of careful visual perception. Let us illustrate the use of the eyes in an example of an object lesson, and it will be seen how necessary it is for children to have perfect vision; and if any should have an error, how important it is that it should be corrected.

If we take a beautiful and instructive picture and place it before a class of children, some will observe it to a better advantage

age than others, because they can see it better. The outlines, form and lineaments are more closely observed; the mental image and the impression on the mind are better and more lasting. When the pupils come to study it in detail, the several parts are more clearly discerned by those who have good visual powers. In the study of a picture, children should not be allowed to pass hurriedly from one portion to another, but each feature should be accurately observed and fixed in the mind until all of the salient points have been examined.

If the child has seen the several parts of the picture clearly, it is not difficult for him to recall them separately or collectively as he chooses. But, on the contrary, if the picture has simply been looked at rather than seen, and the successive parts have come dimly into view, and the whole has appeared as through a fog or mist, the child's mental picture will be indistinct and imperfect, and his knowledge of the picture will be correspondingly deficient. Thus the condition of far-sightedness retards intellectual attainment.

*Requires the best Facilities for School Work.* One of the most important considerations for far-sighted students is the question of light. Nothing is more fatiguing to the eyes than to read or write or draw by an insufficient light. Every far-sighted pupil should if possible be seated so that the rays of light will fall over his left shoulder upon his work, while his eyes are in shadow; the quantity of light should be abundant and the quality of sufficient brightness. Next in importance, perhaps, is the kind of print he must read; the school books should be printed in good, clear type, not too closely compressed, nor smaller than small pica.

Children should sit comfortably erect, avoiding a bending or stooping posture, so that the return of blood from the head and eyes is not retarded. They should hold the book directly in front of the eyes, at a distance of twelve or fourteen inches.

Far-sighted pupils should not read continuously for long periods of time, as they may completely exhaust their power to focus

the print. It is better to work for shorter periods with intervals of relaxation.

While these remarks apply especially to children who are far-sighted and who have not had their defect of vision corrected by suitable glasses, we must not lose sight of the general principle that school children should not be overburdened with near work—that is, work at close range which overtaxes the eyes.

The education of far-sighted children should have in view the choice of a profession or an occupation in which their vision is not required for very fine or continued work.

*Produces Reflex Nervous Symptoms.* From the list of symptoms already considered it is apparent that the general nervous system must at least sympathize with the organ of vision under so tremendous a strain. Brain activity is interrupted by far-sightedness, and no amount of will power can fix the attention of the pupil on his books. But this is not the most detrimental feature; nervous symptoms, reflex in character—such as sick headache, neuralgia, chorea, etc.—may be directly attributed to far-sightedness or to some other visual defect. Not only is the child's school work rendered difficult, but his health may become seriously impaired. In these conditions depending on error of vision, medication is worse than useless. The only relief that can be permanent is in properly correcting the condition by suitable glasses.

#### NEAR-SIGHTEDNESS CAUSED BY SCHOOL WORK.

*Requires Proper Methods of Study.* Of first importance in the case of near-sightedness is an attempt to stop the development and progress. This is mainly accomplished by avoiding the continual straining of the eyes at near work. If near-sightedness is developed in very young children, their games and sports should receive attention and be under competent supervision. Children with high grades of near-sightedness do not care for outdoor sports; they do not see well, and for this reason prefer indoor amusements. They readily become interested in puzzles,



dissected maps, authors, card-sewing, etc., but this may prove burdensome to their eyes, and increase their defective vision.

In their school work they should get given books printed in good clear type of sufficient size. The writing should be of good sized letters and with uniform, fairly heavy lines. Very fine work in the industrial departments—such as fine sewing, delicate drawings, etc.—should be avoided altogether by near-sighted children.

The book should be held in front of the near-sighted pupil, at an angle of forty-five degrees to the plane of the face. The importance of good illumination cannot be too strongly emphasized. Nothing is more productive of near-sightedness than attempts to do near work by insufficient light. This not only favors the development of the defect, but increases it when it is once established. Children should never be compelled to read or study by a dim light, and in case of near-sightedness they should do as little near work as possible by artificial light.

*Modifies the Course of Study.* We have seen that in far-sightedness some departments of the curriculum are influenced by the condition of bad vision, and in the error we are now considering the same thing is true. In our illustration of the study of a picture or painting, far-sighted pupils worked at a disadvantage. In the case of near-sighted, let us substitute the original landscape of which the picture or painting was a copy, and observe the effect. If the distant view consists of a farm scene with herds of cattle and horses, ripened fields of grain, clumps of trees, babbling brooks and silent ponds, bevvies of birds, luxuriant vegetation, beautiful flowers and foliage, etc., the near-sighted pupil can see only the gross forms, and the objects appear hazy and indistinct; all small objects are obscured from view, and if he should be asked to enumerate what he had seen, the landscape could not be recognized by the description.

In the school-room near-sighted pupils have great difficulty in reading the work placed on the blackboard, if they are seated at some distance from it. The same difficulty is experienced if they are required to

draw a map or make a drawing from a copy hung on the wall. In order to see a map placed on the wall they must go close up to it.

In most of our schools a great deal of work consisting of reviews, original problems in arithmetic, maps to be copied, spelling lessons, examination questions, etc., are placed on the board by the teacher for the pupils to copy. It is in this sort of work that the near-sighted pupil has the most difficult task.

It is the very popular and commendable custom of some teachers to take their pupils on excursions to the country to study nature and natural scenery; geological and botanical specimens are gathered and classified, and in this way the flora and fauna of the locality are made familiar to the student. Near-sighted pupils cannot engage in this mode of study to the same extent as pupils with normal vision. They are even less capable of it than those who are far-sighted.

*Demands Special Care in the Student.* In this age of books we are apt to forget, in our eagerness for intellectual attainment, that children differ as much in regard to the strength of their eyes and ability to use them as they differ in their physical strength and constitution. What, then, is a reasonable task for one child may prove a burden to another. Children with near-sighted eyes should be considered as possessing weak visual organs, and though such eyes may be useful, and with proper care, render efficient service, they are subjected to many dangers in the acquirement of an education.

If the near-sightedness is "progressive" in character, the need for care is all the more imperative. No amount of education can compensate for the loss of vision.

Statistics bearing on this point have caused much anxiety, and endeavors have been made to put a stop to the evil. Careful direction and counsel from competent medical authority only should determine the near-sighted pupil's career in school, and the teacher can be of valuable service in pointing out to the parents the extreme necessity of timely action in the care of their children's eyes.

## DEAFNESS IN THE STUDENT.

*Effect of Deafness on the Scholar.* A child that is partially deaf must necessarily accomplish his work with difficulty. He cannot hear well the recitations, nor the directions and instructions from his teacher. Much repetition of questions or answers by the teacher is subversive of good discipline, and if a deaf child does not understand what is said, especially when the teacher is addressing remarks in a general way to the pupils, he frequently lets it pass by altogether.

In some grades of the public school some teachers find a very popular way of imparting information to be the relation of a story from real life, or the explanation of some important mechanism, as the dynamo, or the description of the methods in the manufacture of some familiar article, such as paper, knives, pens, pencils, etc. A child affected with deafness cannot receive the same benefit from this instruction as one with normal hearing. He is liable to lose words, or sentences, or parts of sentences, and thus become confused and lose interest. The recitation is of general benefit to the class, as many points of interest are developed that may not be stated in the text, but this also has its disadvantages to the deaf; the misunderstanding of a word may change the entire thought, and lead to erroneous conclusions.

*Its Effect on the School.* The principle of attention is no less important in the function of hearing than in the vision of pupils.

A pupil with defective hearing often unintentionally diverts the attention of the entire school. If he is to understand all that is said, he necessarily must ask to have some things repeated; if he appeals to the teacher, this causes a break in the continuity of thought between the teacher and pupils, and if he asks a fellow student for help he may cause his benefactor to lose some essential feature of the work. This is not cited as a criticism on the deaf pupil, but simply to show how deafness can interfere with the harmony and working of the school.

*Deafness Affects the Student's Work.* Not only is the progress of the school work inter-

fered with, but the character of the work is modified. The reading is frequently in monotones, the inflection and emphasis are faulty, the modulation is imperfect, and the general expression of the voice is characterized by harshness and nasal tones.

This may result from the fact that the student cannot distinguish accurately the pitch and intensity of the sounds.

The cultivation of the voice constitutes no small part of the work devolving on the school. If possible, pupils should be taught to produce pure vocal tones of natural smoothness and clearness.

The effect of deafness on the voice is also shown in the study of music. Music is one of the best methods of cultivating the hearing powers; the pupils should reproduce the tones of the piano in the various keys. Ordinarily it is the low pitched sounds that are the most difficult to hear and reproduce. For example, a pupil who can hear ordinary conversation very well at a distance of four or five feet, may not be able to hear the low tones of the instrument so well, nor the sound of a bass drum at some distance, nor the roaring of the wind. If the internal ear is affected, causing the deafness, the high-pitched notes are heard less distinctly, or not at all.

## Discussion on Dr. Smith's Paper.

**Dr. Norval H. Pierce, Chicago:** There is not the slightest doubt that the public schools are full of children with defective hearing. The seed of incurable deafness frequently is sown in childhood. Touching upon the point of rarefaction of the labyrinthian capsule, commonly known as sclerosis or dry catarrh of the middle ear, I have been very careful to get in the history the number of patients who have had measles, and out of some hundreds of cases I find that 98 or 99 per cent have had measles. That is a very striking percentage, especially because in every case of measles the process which produces an eruption on the skin also is active in the mucousae of the ear.

The vast majority of these cases do not exfoliate, but the lesion here is characterized by punctate islands of round cells in a mesh work of plastic material. This eruption is especially marked about the foot plate of the stapes, the place where the changes in labyrinthian sclerosis or rarefaction occur. There are many children who are not defective except in so far as their hearing is concerned. Germany has become so convinced of that, that every school

has its eye and ear physician. The same thing should be done here.

I am fully convinced that quite a number of children now in the deaf mute asylums might be rescued if their ears were examined. It has been proven that many of them have islands of audition which might be used in their education.

**Dr. Harold N. Moyer, Chicago:** I have here a resolution adopted by the Section on Ophthalmology at the last meeting of the American Medical Association, held in New Orleans, May, 1903. This matter was brought up and I was asked hurriedly to draw up a resolution, and I am gratified to say that twenty state medical societies have seen fit to adopt these resolutions without amending or altering it. The movement has been endorsed and recommended by the most representative medical organization in the United States. The resolution is as follows:

"Whereas, The value of perfect sight and hearing is not fully appreciated by educators, and neglect of the delicate organs of vision and hearing often leads to disease of these structures, therefore, be it

Resolved, That it is the sense of the American Medical Association that measures be taken by Boards of Health, boards of education and school authorities, and, where possible, legislation be secured looking to the examination of the eyes and ears of all school children, that disease in its incipency may be discovered and corrected."

An active propaganda has been started, and I have been requested to bring this before our House of Delegates for adoption. When these are all gathered together, statistics will be prepared and a copy of these resolutions will be sent to everybody in the whole country who is in the least concerned in education and Boards of Health and other persons in authority. I think that such a step will do much to bring the matter not only before the profession but the public at large.

**Dr. Joseph C. Beck, Chicago:** Dr. Pierce has reference to the work that is being done in Germany, especially in Switzerland, with regard to the defective hearing and poor sight of the public school children. Examining physicians have been appointed for that purpose, and I am always glad of an opportunity to mention the name of the man who has been instrumental in bringing this about. Bezold, the man who started these investigations and examinations in the public schools. This work has already done much good. He has organized a body of examiners and specialists throughout Germany and Switzerland, and an examination of the ears, nose and throat is made of every child, so far as these organs have to do with hearing.

He has found that many of these children are not pure deafmutes, but are merely deaf, and that they have one or more islands of hearing. By means of very delicate tuning forks and other instruments Bezold discovered this, and was also able to give proper directions as

to what lines these of education should be followed so that the hearing, in many instances, was raised to a marked degree.

In about 75 per cent of these children he found adenoids, and the removal of these cured many a child that had suffered from defective hearing.

He also discovered many cases of poor hearing not discovered either by the teacher or the parent, and he succeeded in restoring the hearing.

Dr. Pierce made one point with regard to special disease that has been brought to the notice of the profession during the past three or four years; that is, rarefaction of the labyrinth or labyrinthian disease. It is entirely new to me that it occurs in children. I know it occurred in older individuals, but if that disease is present also in children, no amount of education or treatment will do any good. All these cases eventually terminate in absolute deafness.

I am very much pleased with the work done in this line by Dr. Frank Alport, of Chicago. He has done a great deal so far as the examination of the eye is concerned, and one sees the benefit of this work all the time. It is to be pitied that he must do all this work himself; that no one has come to his assistance. Much can be done by organizing, as suggested by Dr. Moyer.

**Dr. Smith, closing the discussion:** I am very well pleased, indeed, that my paper elicited so much discussion. I did not present anything new, but I hoped to arouse some enthusiasm in this work, and I am glad that I succeeded, also that others have had much the same thought, and that the American Medical Association, and other societies have taken up the work and endorsed what has been done.

## WHEN TO OPERATE FOR APPENDICITIS.\*

BY S. C. STREMMEL, M. D., MACOMB.

So much has been said and written on this subject, during the last ten years by the master surgeons and physicians all over the civilized world, that it is impossible to say anything new or original; but in view of the diversity of opinion still existing among physicians and general practitioners as to the proper time to advise operation for appendicitis, it seems to me becoming to present a paper on this subject before this society.

The surgeons universally agree that the best and safest time to operate is during the interval or very early in the beginning of the attack, and promptly advise surgical

\*Read at the 54th Annual Meeting, May 17, 1904.



treatment in all cases clearly diagnosed during the interval or very early in the attack. While the physicians in many localities do not advise operation until the patient's condition is such that operation becomes an extremely hazardous undertaking. I have met a great many physicians in consultation and at medical societies and the common question asked is "how can I tell whether or not an attack is going to be serious. I see case after case recover from the attack without operation, but here and there a case occurs that does not. I would like to have definite knowledge on this point, so that I may advise and direct my patients to their best interest."

It has been clearly demonstrated by Dr. Bernays of St. Louis and a number of other surgeons that it is impossible to diagnose the pathology or to prognosticate what the pathological conditions are going to be in any case in the beginning of the attack and in many cases not at all until the abdomen is opened, that it is impossible to tell whether the case will terminate as a simple acute catarrhal affection or become a suppurative case with perforation, whether there is an enterolith or other foreign substance in the appendix, an occlusion of the lumen due to oedema, caused by congestion of the cecum; that we cannot even guess approximately what kind of infection we are dealing with.

If this be true, and it is, it is clearly evident that every case not operated in the beginning of an attack is subjected to the possibilities of developing a serious case. Many, however, do not, and apparently recover, for the time at least, which fact convinces the average doctor that operation was not necessary, notwithstanding the fact that the possibility of another and more serious attack hangs over the patient's head and when such an attack does occur, he is often carried along with the hope of recovering as he did before, until finally a surgeon is called in to give him a last chance. I, myself, have seen eight deaths from appendicitis, none of which were operated. I have also seen five deaths that were operated, all as a last resort. Every one of these cases,

through negligence was let go until formidable and fatal symptoms occurred before operation was advised. I am satisfied that every one of these thirteen cases would have recovered if early or interval operation had been done. Medical literature, on this subject, is full of reports of such cases and hundreds of them are still dying yearly, yet there is scarcely a medical meeting where this subject is discussed, but that there is a plea for conservatism, conservatism that conserves the appendix, oftentimes at the expense of the patient's life.

Statistics show that the mortality, in cases operated late, that is: after the first few days, when pus has formed and inflammatory complications have occurred, is from 14% to 20%, while the interval or very early operation (which is nearly always the same as the interval operation) in the hands of a skillful surgeon, has practically no mortality at all.

In order to show the low mortality of the interval operation and also to show that it is the operation of choice, generally, I mailed a postal card, containing the following two questions, to 1,000 of the leading surgeons in the United States: 1st. How many uncomplicated cases of appendicitis operated on between attacks have you lost? 2d. Approximately, how many such have you operated? I received 578 answers. Many of the answers were accompanied by interesting personal letters. In a few instances the limitation of the word "uncomplicated" was not clearly understood, but where it was not in most instances, the cases reported were so classified that I could get the kind of cases I wanted, that is; cases not complicated by any other disease. Any surgeon who has done many of these operations, knows that most cases, are complicated by adhesions, more or less. In the 578 answers received 60,486 cases were reported with 119 deaths, a little less than 1/5% mortality. The men who reported 500 or more cases, average a mortality of 1/10%. Those who reported 100 to 500, 1/5% and those who reported under 50 cases, 1%. The cause of death in 97 cases was not given; eight deaths were stated to be due to faulty

technique in the beginning of the operator's work; five were due to pneumonia; five were due to obstruction of bowels, and one was due to an abscess, which occurred three months after operation. Two deaths were reported to be due to shock, caused by tearing up very dense and extensive old adhesions. The personal letters received were almost unanimous in the opinion that the interval operation is the operation of choice.

Dr. John Wyeth of New York said the mortality in such cases should be considerable less than 1%. Dr. Ricketts of Cincinnati, reported 162 chronic interval cases with two deaths and 76 perforative cases with 14 deaths. His rule is to operate just as soon as possible, regardless of attacks, fever, or other conditions. Dr. John B. Murphy of Chicago had 2,068 cases of all kinds 807 of these were interval cases with only one death. The Mayo Brothers of Rochester, Minn., reported 1,657 cases with two deaths. Dr. A. H. Fergusen of Chicago, reported 800 cases with one death. Dr. McDonald of Albany, N. Y., 1,500 cases with two deaths. Dr. D. A. K. Steele, Chicago, 1,000 cases with one death. Dr. Rob't T. Morris of New York lost one case from omental adhesions reforming about the ilium after digging up quite extensive adhesions. He reported over 300 interval cases. Dr. Jepson of Sioux City, Iowa, 1,200 cases with two deaths. Dr. A. J. Ochsner of Chicago, 694 interval cases at the Augustana Hospital alone, with two deaths. He could not give me statistics on his other cases in time. Dr. John Deaver of Philadelphia reported over 2,000 interval cases with one death, which was caused by a hole in the mesentery through which a knuckle of bowel, subsequently slipped, operation was done for the obstruction but the patient did not survive. Dr. D. H. Craig of Boston said that his experience led him to believe that except as the result of some very unusual accident, there should be no mortality in the interval operation. He hoped that surgeons would not be further incited to remove this organ, simply because it was easy and little danger, because he believes it to be an actively functioning organ and that within a year, he would publish his ob-

servations along that line. I received two answers saying it is never necessary to operate at all. Dr. Lenfestey of Mt. Clemens, Mich., reports 150 cases treated with copious doses of castor oil and all the cases recovered and declares there is no use in ever operating. Dr. Himrod of Augusta, Ga., states that he has cured all his cases, 50 in number, without operation. Most of the other communications stated that they preferred and urged the interval operation, but they could not, generally, get patients to consent to operation when they were apparently well. This is undoubtedly true, but if the general public are educated and taught the exact facts in the case, it will not be difficult to get their consent for interval operation, provided they are convinced that the diagnosis is correct. The general practitioner sees the great majority of the cases first and, as a rule, patients will do as the family doctor insists. It is upon him that the responsibility for the future welfare of the patient rests. If the doctor advises operation at his first visit or as soon as his diagnosis is made and the patient does not accept it, then his skirts are clear, and the patient takes the risk.

In this day and age, it is extremely embarrassing for a physician to be caught with a moribund case on his hands, without having advised early operation, when the family and friends find out, that if he had been operated early, there would have been little danger. In many instances, a doctor is not called until the patient has been sick, three or four days. In many other cases, the patient will not consent to early operation. Then again, a surgeon may not be available. Under such circumstances, the Ochsner treatment should be given. If the patient gets gradually, or rapidly worse, he should be operated anyway and an operation selected that would relieve and save the patient's life for the time. Then a radical operation done later, when his condition will safely permit it. It is gratifying to see that physicians all over the country are rapidly appreciating the advantages of the early and interval operations for appendicitis and when the laity understand the sub-

ject better, the mortality from this disease will be very slight, indeed. It has been said that at this time many cases are and will be subjected to operation who have not nor never did have appendicitis. That is undoubtedly true. We all make mistakes occasionally, the surgeons as well as the physicians and as soon as we all know that pain in the right side is not always appendicitis and that other conditions often simulate it so closely, that it is sometimes difficult to diagnose so soon mistakes will be made less frequently. Dr. C. P. Thomas of Spokane, Wash., in reporting 400 cases of all kinds, said that he had operated on 12 cases, that he was sure did not have nor never have had appendicitis. That the trouble in these cases was gastric ulcer, gall stones, kidney stones or some other well-known condition. I, myself, have operated on one such case. It is important, indeed, that we make a proper diagnosis before advising operation, but if that is impossible, an exploratory operation can do little harm, and may determine the real nature of the trouble.

In conclusion, I wish to repeat that 1st. The safest and best time to operate for appendicitis is during the interval.

2d. The very early operation is in the great majority of cases, the same as the interval.

3d. If all cases were operated early or during the interval, there would be practically no mortality, if the operations were done by experienced surgeons.

4th. When cases are not seen until late or refuse operation, the Ochsner treatment should be given.

5th. If, however, the patient gradually or rapidly grows worse, immediate operation should be urged and such operation advised as will give the patient the best chance for his life at the time.

6th. That it is a serious reflection on the doctor who is caught with a moribund case on his hands without having advised early operation.

7th. In view of the fact that the mortality of late cases is from 14% to 20% and that the mortality of interval cases is

1/5% to 1/10%, it is self-evident that the interval operation should be the operation of choice.

#### Discussion on the Paper of Dr. Stremmel.

Dr. A. J. Ochsner, Chicago: Mr. President—We are certainly indebted to Dr. Stremmel for collecting and presenting these statistics, comprising, as they do, a large number of the cases treated by many different men, some of whom have treated large numbers of cases of the disease, and consequently their opinions should have a great deal of weight. He has collected a large amount of reliable clinical material, and his position is undoubtedly correct. I have forgotten the exact percentage mentioned by him, but it is so low that if every person who is suspected of having an appendicitis were operated, that is, if the largest possible number of mistakes in diagnosis were made, the rate of mortality would be so slight as scarcely to be compared with the mortality during the attack. The early operation under favorable conditions is exactly the same as the interval operation, consequently when the conditions can be had there can be no doubt whatever but that early operation should be done. Of course, in the interval operation one can secure in every individual case safe conditions, and the surgeon must be the judge as to what conditions would be safe in any given case.

Regarding the cases in which operation is refused by the patient or his friends, or in which the condition is such that any simple abdominal operation would be accomplished with a great deal of danger, the treatment which the essayist has referred to, consisting in placing the alimentary canal at rest, I believe will reduce the mortality very materially. I have just reviewed one thousand cases of appendicitis that I have operated on, having reviewed this list in connection with the preparation of a paper for another society, and I have found these interesting facts, that by treating every case that has advanced beyond the early stage that comes under treatment when there is already a perforation, or a beginning diffuse peritonitis, by following this treatment one can reduce the mortality to less than four per cent. I have tested that in a large number of cases, and I would certainly advise it. In cases after the diagnosis has been made, and in those which have advanced beyond a certain stage, the best statistics are approximately fourteen per cent, and from that on upwards. For that class of cases I believe it is possible always to reduce the entire mortality to less than four per cent, which is a great improvement on fourteen per cent.

As to the correct steps necessary to accomplish this, I will say that there is great danger of misapprehending the importance of them. There is no doubt but what a number of lives have been sacrificed because these steps were not carried out accurately. In the first place, it is important that the stomach and alimentary canal be emptied, because as long as there is any fluid in the stomach it is likely to surge down into the intestine, and cause disturbance,



which will carry infectious material from the appendix to other portions of the abdominal cavity, consequently it is important to empty the alimentary canal by resorting to gastric lavage, and, to prevent further regurgitation, the stomach should be washed out again. We should not place anything in the stomach which will again cause peristalsis. Many cases have come under my care in which it was stated absolutely that the patients had received no nourishment, but upon questioning them carefully I have found that many of them had received a little milk, a little soup, or light meat diet, which was just enough to start up peristalsis. It only takes a slight amount of nourishment or food introduced into the stomach to give rise to peristalsis, and peristalsis spreads infection, causing eventually peritonitis, and perhaps death. These patients should receive no food by the mouth. This should be insisted on. No peristalsis, no pain, so that anodynes are not necessary. During the first few days in these cases not even water should be given by the mouth, because frequently the ingestion of water will give rise to the secretion of mucus from the stomach walls, thus increasing peristalsis, which will cause as much disturbance as if nourishment had been given. By carrying out these principles in these cases absolutely, I believe the mortality can be reduced considerably, but of course there will always be more or less mortality in this class of cases.

**Dr. J. L. Wiggins, East St. Louis:** I am always filled with pride and satisfaction in attending these meetings and hearing the enunciation of ideas that put the treatment of appendicitis upon a reasonably satisfactory basis, and then when I get home and am confronted with a case of this disease, either in consultation in the country or in my own city, I am disgusted with its execution. Whilst there can be no question about the *rationale* of the Ochsner treatment, so-called, in these cases, I must confess that I believe it has done some damage on account of its improper interpretation. Dr. Ochsner himself has emphasized that point, and I think some practitioners carry his treatment beyond a point, where it is safe. I recollect very well, after hearing Dr. Ochsner's address at St. Paul, that I had a hopeless case under observation which I kept under treatment, as suggested and recommended by him, for six weeks, I think he stated that the only case he had lost was one upon which he had operated too soon. I fully made up my mind to profit by his experience, but I lost the patient by waiting. After the subsidence of fever I believe we should operate inside of five or seven days, as a rule. That position is generally understood, but not acted upon even by many of our leading surgeons. I recall a case that occurred within the last few weeks, in which a surgeon of more than local prominence was called in consultation, and in spite of full bedside notes indicating a general fall in temperature and pulse this gentleman conducted the starvation treatment. His suggestion was carried out, and the patient died. What we need is a campaign of education in regard to the proper methods of treatment of appendicitis. While the subject

has been pretty thoroughly discussed during the last three or four years, yet at the same time there is ample room for emphasis along this line.

I wish to compliment the Doctor on his very excellent paper in every respect. Usually these subjects are a little tiresome, but the subject as presented by him has been of more than ordinary interest to us, and personally I wish to thank him for his excellent contribution.

**Dr. D. N. Eisendrath, Chicago:** I want to thank Dr. Stremmel for his interesting statistics. I agree fully with his view that if the patient or the patient's family do not concur in an operation, the responsibility should be placed upon them.

With regard to the differential diagnosis, a number of cases have occurred during the past year or two which I have seen in consultation, in which the general practitioner has made a diagnosis of the pain in the right lower quadrant of the abdomen—appendicitis. Twice I have agreed with them. In the last two days I have seen a patient who had a temperature of 102°, with pain and tenderness located in the region of the appendix. The appendix was found adherent to the posterior aspect of the cecum and practically there was no cause for this elevation of temperature, but on introducing the hand a little farther I found empyema of the gall-bladder. I have known of empyema of the gall-bladder being confused with appendicitis twice, and on account of enlargement of the gall-bladder a portion of the liver was drawn down, and as a result there was more or less gastroptosis, so that the gall-bladder lay about the level of the umbilicus, or even a little lower, as in the last case which I saw, so that the differential diagnosis is practically impossible in such cases, except at the operation. If we suspect a case of appendicitis, with apparently little cause for the elevation of temperature, and inflammatory local disturbance, I believe it is well to explore the abdomen, for the purpose of making a correct diagnosis.

In regard to the Ochsner treatment, I am very glad that the profession in general is taking it up, and using it more intelligently. After Dr. Ochsner first suggested this method of treatment it was taken up, as Dr. Wiggins has said, in a blind manner, and was condemned by a number of eminent surgeons who should not have condemned it. It was a treatment rationally applied to cases of appendicitis in the hands of the general practitioner or surgeons who make it a practice in such cases, when the patients are seen on the first, second or third day, to put them on the Ochsner treatment, and then if they did not improve in twelve or twenty-four hours thereafter operation was advised. I believe that is the position taken by Dr. Ochsner, but the profession has understood that every case should be treated by the starvation method, whether it got better or not. That is not Dr. Ochsner's position, and I am sure he does not want it to go forth as his opinion, if I am not mistaken in regard to it. He operates upon these cases the same as

everyone else does. The chief object to be obtained is to try to operate on these cases in the interval, when the mortality is practically nil.

Dr. Stremmel, (closing the discussion): I have nothing further to say except to thank the members who have participated in the discussion of my paper.

# REPORT OF A CASE OF INTESTINAL OBSTRUCTION; WITH REMARKS AS TO THE TREATMENT FOLLOWED.\*

BY J. F. PERCY, M. D., GALESBURG.

As the experience of the individual surgeon in cases of obstruction of the bowels must in any event be limited, I have deemed it a duty to report a case of this character which recently came under my care. Intestinal obstruction is usually so insidious in its onset that the word "obstruction," with all the evil consequences that it stands for, frequently does not occur to the practitioner first seeing the case until a train of symptoms develops which points to a rapid dissolution of the patient.

J. H., age 53, on the morning of June 2, of last year was in his usual health until after breakfast, when he was taken with a sudden severe vomiting spell, accompanied by generalized abdominal pain. After getting rid of his breakfast the patient went down town, about a mile distant. Upon his return there was a free bowel movement, but this did not lessen his abdominal distress. The family physician was then called and appropriate treatment given. At this visit nothing was found that suggested the beginning of the serious condition which later so thoroughly manifested itself. The case was assumed to be one of acute intestinal indigestion, and attempts were made to clear the bowels. In this way it was expected that the symptoms of abdominal pain and vomiting would be made to disappear. This, however, did not take place, even though active cathartics were prescribed, and various stomach sedatives administered.

As the patient's condition did not improve, I was sent for by the family physician, Dr.

Giles of Knoxville, June 6. At that time the patient could be described as a poorly nourished man with an aged appearance of between seventy and eighty. Upon examination it was found that he was in a semi-conscious condition. The surface of the body was cold, although when aroused the patient would complain of being too warm. Both eyes were turned upward so that only the lower part of the white ocular conjunctiva was to be seen. The pulse was thin, and rapid, feebly beating one hundred and forty times to the minute. The respirations were irregular, spasmodic, superficial and rapid. The capillary circulation over the body was impeded; there was cyanosis of the extremities, especially under the finger and the toenails, the lips, the edge of the ears, the tip of the nose and dependent portions of the body. Hiccough was also one of the most pronounced of the many serious symptoms present in this case.

The abdomen was moderately distended. Manipulation disclosed no palpable masses. Pain was easily elicited over all parts of the abdomen during manipulation, and as well when percussion was attempted. Auscultation gave an infrequent, tinkling, glass bell note, showing that peristalsis was much slowed, but not yet absolutely inhibited. Everything was rejected by the stomach, not even a teaspoonful of water being retained. No movement of the bowels had occurred except the one already reported together with what fecal matter had been washed out of the lower bowel when enemas were given. Altogether the case had a most unpromising outlook.

The family history so far as the purposes of this report are concerned, is negative. The personal history, on the other hand, is interesting, and without a doubt has a direct bearing on the symptoms as described above. The only important illness was an attack of what was then termed inflammation of the bowels. This occurred when the patient was ten years of age. From an older brother of J. H. it was learned that this attack was also accompanied by obstruction of the bowels, and that before relief was obtained, the life of the pa-

\*Read at the 54th Annual Meeting, May 17, 1904.

tient was despaired of. A careful inquiry into the history of this first attack, leaves no doubt that it was one of a localized septic peritonitis, due to an acute appendicitis. The subsequent history also bears out very well this view of the case. The patient suffered with various nutritional disturbances, as do the majority of those, the subjects of a chronic appendicitis with adhesions. Without a doubt, the general lack of physical development which was obvious in this case, was due to what the patient called his "chronic billiousness." He had what is usually termed chronic intestinal catarrh. His intestines were usually over distended with gas; and abdominal pressure applied with the extended fingers over the region of the caecum would cause a rush of gas from this region. This is a symptom that I learned from Dr. A. J. Ochsner, and it is most valuable as an aid in the diagnosis of chronic appendicitis. When it exists alone, or in connection with other symptoms common to this form of abdominal disease, one will rarely fail to find a chronic appendicitis with adhesions, when the abdomen is opened. The general nutritional lack so noticeable in this patient was undoubtedly due, in some measure at least, to this acute appendical attack that first manifested itself forty-two years ago.

Increasing experience with the various manifestations of appendicitis has impressed me that a not uncommon form of this proctean disease will give a history very similar to the case here under discussion. Within a few months I have seen three cases giving a history of a primary attack before their fourteenth year, and none subsequent until after the fiftieth year. Indeed, two of these cases are now in their sixty-fourth year. This fact takes one more prop from under those whose habit it is to advise patients, once the subject of an acute appendicitis, to wait until they have another attack before considering the question of its removal.

Any appendix that can *really be palpated*, and at the same time *actually* gives rise to localized pain or distress during such palpation, particularly if there is found evidence

of stasis of gas in the caecum, should be removed.

However, after removal to the hospital, the patient was immediately prepared, placed upon the table, and his abdomen opened in the medium line through a rather long incision between the umbilicus and pubes. This disclosed a general peritonitis with the belly containing a lot of free, serous-like fluid. The small intestine was greatly distended and inflamed, and besides, was plentifully studded with ecchymosed spots containing extravasated blood. In the ilio-caecal region was a mass of adhesions that was the cause of the obstruction. As the patient was doing very badly under the anesthetic, having stopped breathing for a period of six minutes, necessitating artificial respiration, etc., I decided to empty the small bowel as thoroughly as the haste necessary would allow, and finally to fasten the small intestine into the abdominal wound and make an artificial anus. This was done just above the ilio caecal region, and after a rather stormy post-operative experience, the patient survived the operation.

Upon my return from my vacation the third of August, I found him up and about the ward. He had gained in weight, his abdomen was flat, and barring the disagreeable experiences which his artificial abdominal anus necessitated, was in most excellent condition. The digestive juices from the small intestine had caused a most pronounced excoriation of the skin of the abdomen, especially about the opening into the bowel. To overcome this, and get the abdomen into shape for a radical cure of the intestinal condition, was the problem now before us. To do this, the skin was covered with an ointment composed of equal parts of lanoline and vaseline, and a moist cotton plug was wedged into the mouth of the fistula. This could now be done because the patient had begun to have natural bowel movements whenever the fistulas opening was sufficiently closed. The lanoline in a great measure inhibited the action of the intestinal fluids which still escaped on the skin.

August 5th, two months from the entrance of the patient into the hospital, the second



operation was performed. An incision was made above, below, and around the fistula into the abdomen. This disclosed an interesting condition. Starting from the region of the appendix and involving several inches of the ilium, was a mass of adherent gut. The adhesions were strong and dense, about the appendix showing their ancient origin, while through the rest of the belly there was a marked tubercular peritonitis. There were, then, in this case, two factors at work: adhesions resulting from an old appendicitis, and the tubercular condition. The obstruction for which the primary operation was done, was undoubtedly due to a volvulus of the lower end of the ilium resulting from the adhesions about the appendix. Even at the second operation, although the life condition of the bowel had been restored, at this particular point the tissues were very much thickened, brittle and juicy, due to the tubercular complication. The adhesions immediately about the appendix were broken up without damage to the gut; but those which involved some of the lower part of the ilium were so intimately connected with this part of the intestine, that their separation irreparably damaged the bowel, necessitating the removal of about ten inches.

To have to resect the bowel in the presence of tubercular peritonitis is something no surgeon would invite. The dangers of a mixed infection in the tuberculosis of this region is just as great as, or greater than a mixed tubercular infection in other regions of the body.

Besides this, there is always the danger of a failure of union here as elsewhere, in tissues that are tubercular; but there was no alternative left in this case but to resect the gut, and this was done. Ten inches were removed as shown in the specimen here presented, and the enastomosis made with a Murphy Button. The rule to make the union only in normal tissue was adhered to as far as eye appearances of the gut were concerned, although the whole mesentary of the intestine was very much thickened and oedematous, making it difficult to manage so as to be certain of its repair. All the adhesions possible

were broken up, and the abdominal wound was closed without drainage. Primary union resulted throughout. The Murphy Button was passed on the sixteenth day, and the patient left the hospital on the nineteenth day following his second operation.

The improvement as to his general health has been most marked, and will undoubtedly continue for some months, or until the maximum of the improvement possible will be reached. This has already arrived at a degree far and away beyond what it was for some months before the illness which is the subject of this paper.

There are some lessons that we can profitably learn from an experience like the one just described.

First, I would impress that when there is pain and distress in the bowels in a given case, and with it symptoms of shock, that great care be used in deciding on the treatment. If it is deemed wise to give cathartics (and it is never wise to give them), let it be with the idea of not trying to accomplish the impossible. We all know what should be the rational treatment of an obstinate case of constipation. If we do not attempt to do more, and our case proves to be beyond this, we have not jeopardized either the life of our patient or our own reputation.

When vomiting persists wash out the stomach, and with clysters, if deemed necessary, empty the lower bowel; especially if colicky pains are nagging the patient. Do not give morphine until the characteristic symptoms of the particular case you are trying to treat are lost; but send for a qualified surgeon, turn the case over to him and thank God that you have some one on whom you can dump what at best usually proves to be a most undesirable case.

But suppose that you cannot get a surgeon at once, or you have not yet succeeded in convincing the patient or his friends that intestinal obstruction is always a surgical disease, then there is one more excellent plan of treatment. It is just the opposite of the mode of practice usually followed. Instead of giving things often called medicines, give nothing, absolutely nothing, especially by mouth. Intestinal peristalsis will not occur

but to a very limited degree, if the alimentary tract is kept empty. Inhibit peristalsis by withholding, as emphasized by Ochsner, everything by mouth, and you reduce the pain that is caused by the pathology in the case to a minimum.

Again, suppose that this does not stop the pain, as it will often not do, especially in the beginning when the treatment is first instituted. Still, I would not give morphine. A most excellent substitute for this condition for this unsafe drug is brandy given by rectum. One or more ounces of brandy in four or six ounces of warm normal salt solution introduced slowly and without force, through a catheter into the rectum, will in a few minutes, in the majority of cases, convert a suffering and shocked patient into a comfortable one. A warm glow will usually spread over the body, followed in a short time by a gentle perspiration. The symptoms by this plan of medication are not masked, and you are not lulled into a sense of false security.

Once more, suppose that this treatment fails to give all the relief that the patient or his friends demand. Repeat it, and again if necessary, every hour for two or three hours; as long as the liquor is not detected in the breath, its limit for usefulness as far as relieving pain has not been reached. In the majority of cases this is all that will be required; but if it proves to be not sufficiently pain relieving, then let me add another practical fact, and it is this: In giving morphine by hypodermic injection to any case of abdominal pain, exclusive of renal or hepatic colic, do not ever be tempted to make your initial dose greater than one-sixteenth of a grain. It is surprising to those who have not tried this plan, to learn how a very little morphine suffices in all cases of intestinal pain, especially when post operative or of appendical origin.

In closing, I want to call attention to another symptom in this case, the significance of which is generally not understood, or at least not appreciated. It was mentioned in the beginning, and was to the effect that the surface of the patient's body to the physi-

cian's hands was cold, but when aroused the patient complained of being very warm. They usually insist upon throwing the bed clothes down. This is a most unpromising symptom from the standpoint of prognosis, and the majority of patients showing it do not recover. It is attributed to vaso-motor paresis, and its significance from a prognostic standpoint should be borne in mind when recognized.

In concluding, permit me to say that I have not attempted to cover the vast field of the surgery of intestinal obstruction, but rather to report this experience, and from it to lay down a plan of treatment which is both rational and easy of application by the physicians who make no pretense of attempting major surgical work. But remember, finally and always, that the earlier the abdomen is opened, the lower the mortality in intestinal obstruction.

#### Discussion on the Paper of Dr. Percy.

**Dr. A. J. Ochsner, Chicago:** Mr. President—This paper contains several of the most useful lessons in abdominal surgery. It contains one lesson which has not been learned by very many who practice medicine, namely, the uselessness in trying to force anything through a mechanical obstruction. Whenever there is intestinal obstruction, a band and intussusception, or an inflammatory condition, it does not matter what the cause of the obstruction may be, if it is a real obstruction, a cathartic cannot do any good. It can only do harm. It can only increase pressure above the obstruction, and in doing this force infectious material through the injured intestine and cause peritonitis, so that in none of these cases can it do any good. The only cases in which it can do any good are those of impaction, in which the impaction will take care of itself the moment you stop putting food into the stomach.

What Dr. Percy has said, if carried out, will save a number of lives, because these patients are killed by the infectious material that is forced through the intestine above the obstruction, except in cases where there is strangulation. In cases in which there is strangulation, the infection goes through the walls of the strangulated intestine. This one point should be remembered, that the only thing a cathartic can do is to prove that the case is not serious. In other words, there is not anything the matter with the patient of any consequence. If the cathartic does not work, it may kill the patient, so that when there is obstruction a cathartic is never indicated. Food should not be given until one is absolutely sure that there is no obstruction.

The other things said by the essayist are of the utmost importance. As soon as one is rea-

sonably sure that there is mechanical obstruction, the abdomen should be opened, providing a surgeon is available, and if not, the patient should be taken to a surgeon.

I do not wish to detract from the other things that were said, but desire to emphasize one point, namely, that the first thing usually given to these patients, and I have seen dozens of them with mechanical obstruction of the intestine, is a lot of cathartics. This is a mistake. It is very much like trying to force a lot of men through a doorway at the same time. You cannot do it, and therefore it is necessary for some of them to pull back, and so in these cases of mechanical obstruction of the bowels you must put nothing more above, if you wish to get things through.

## INFECTIOUS ULCER OF THE CORNEA\*.

BY WILLIAM H. WILDER, M. D., CHICAGO.

Assistant Professor of Ophthalmology, Rush Medical College, Professor of Ophthalmology, Chicago Polyclinic, Surgeon, Illinois Charitable Eye and Ear Infirmary, etc.,

Under the title, infectious ulcer of the cornea, it is intended to consider briefly some of the most important features of diseases of the cornea that are usually described in the books under the headings, Suppurative Keratitis, Serpiginous Ulcer and Abscess of the Cornea.

The prompt recognition of this condition, and the institution of proper measures to check its course are of the utmost importance, and inasmuch as the general practitioner is called upon to deal with this affection quite as frequently as the specialist, at least in its incipient stages when it is most amenable to treatment, I have ventured to present the subject at this general meeting.

With the cornea as with other structures of the human body, anything that tends to lower the general nutrition conduces to the unfavorable action of infection; and vital resistance plays as important a role in warding off infection of the cornea as it does in the lung or any other organ. Naturally, therefore, we shall expect to find infectious ulcer of the cornea most severe in individuals in whom there is impaired vitality of the structure either from a general or local depraved nutrition. Badly nourished child-

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ren, convalescents from wasting diseases, alcoholics and old and broken down subjects would therefore be more prone to infection of this part than robust and healthy individuals.

Consideration of this important underlying cause therefore must be taken into account in the treatment.

But added to this weakened vitality of the cornea there is the organic cause in the shape of an infectious organism which gains entrance to the cornea through an abrasion or wound sometimes apparently trivial.

The intact corneal epithelium forms a most effective barrier to the entrance and action of micro organisms, and even the most virulent forms such as the gonococcus and diphtheria bacillus fail to affect it unless the secretion in which they are contained lies in contact with the cornea for a considerable time. Thorough and frequent flushing of the conjunctival sac therefore frequently prevents the invasion of the cornea by such specific diseases of the conjunctiva. But if for any reason the epithelium is broken, the germs rapidly gain entrance to the corneal substance. A scratch of the corneal epithelium from a finger nail, a twig of a bush, a beard of grain, a cinder or any other foreign body are familiar examples of slight injuries that because of neglect in early treatment frequently lead to irreparable injury of the eye. Through such a wound germs may enter to cause abscess and suppuration. Persons whose occupations render them liable to injury of the cornea, present a great number of such cases. Thus hostlers, nurserymen, harvest hands, barbers, railroad men and lathemen frequently suffer.

The infection need not be conveyed by the object that causes the injury to the cornea, probably in the majority of cases it is not. The infective germ may be already in the conjunctival sac, or if not it may be carried there by dirty fingers or cloths. Few conjunctival sacs are sterile, and most of them contain germs of some sort, while in the adjoining lacrimal sac, particularly if



there is any retained secretion because of an old inflammation, may be found many of the 57 varieties that infest the nose and mouth.

The pneumococcus of Friedlander is the most frequent cause of the disease we are considering, and probably in many if not a majority of the cases this germ was retained in the lacrimal sac. Other diplococci, as for example the gonococci may excite suppuration; and the staphylococcus pyogenes aureus and albus as well as the streptococcus may be the active infective factor to excite suppuration of the cornea. In fifty cases examined by Uhthoff and Axenfeld to determine the nature of the infection, the diplococcus lanceolatus of pneumonia was found pure in 26, while the same germ together with other micro-organisms was present in seven cases. In 13 cases, the pneumococcus was not found, but staphylococci and other micro-organisms, while in four the bacteriological examination was negative.

#### Clinical Appearances:

Soon after the receipt of the injury, which, as has been said, may be only a slight abrasion of the epithelium, the cornea immediately around the little wound begins to show a grayish opacity, owing to the infiltration of the corneal substance with leucocytes and round cells. The corneal corpuscles proliferate. In a day or two there may be a distinct loss of substance at the point of injury owing to the breaking down of the infiltrated portion, and a more or less clearly defined ulcer may be seen whose floor presents a dirty grayish slough, and whose edges are bordered by a grayish or yellowish zone of infiltrated cornea.

The ulcer shows a tendency to rapidly invade the healthy tissue and to spread in one or other direction over the cornea on account of which there has been given to it the name serpiginous ulcer. The advancing infective border is always characterized by the grayish sloughing floor and the zone of infiltration of the adjacent corneal tissue. It may show a tendency to extend deeply into the substance of the cornea, in which case there is great danger of perforation and infection of the interior of the eyeball.

As the ulcer advances in one direction, healing may take place in the part first affected. The floor of this part of the ulcer becomes clean by casting off of the minute sloughs, and new epithelium grows down the side of the little depression and on to the floor.

This favorable change may be recognized by the glistening sides and floor of the ulcer, when the corneal reflex is obtained.

At this stage there will usually be present hypopyon, which is an accumulation of pus in the aqueous chamber. The quantity is variable, but in severe cases it may half fill the anterior chamber. If it is quite fluid it may change its position with the movements of the patient's head, gravitating to the lowest part, but frequently it is so thick and fibrinous that its position will not change. The pus does not come from the abscess or ulcer of the cornea. Properly speaking, it is not pus, but an inflammatory exudate, composed of leucocytes, fibrin and serum, and is sterile. Because of its presence in such cases, they are frequently described as hypopyon keratitis.

The ulcer may spread in all directions, until the whole cornea is involved, and at any time in its course it may cause perforation and prolapse of the iris.

The membrane of Descemet seems to be more resistant than the rest of the cornea, and in cases of deep ulceration may present as a little pearly cyst in the floor of the ulcer, known as Keratocele, resisting for a considerable time the ulcerative process.

If healing finally takes place, a scar more or less dense occupies the site of the ulcer, and this being opaque may seriously impair vision especially if it is centrally placed over the pupil.

In addition to the appearance of the cornea itself, the eye presents marked circumcorneal injection and sometimes oedema of the conjunctiva. The pupil is sluggish and contracted, and the iris is discolored, showing that that structure is also involved in the inflammatory process. There may or may

not be considerable pain in the eye, but photophobia and lacrimation are usually marked.

The prognosis is always grave. There is certain to be an extensive opacity at the site of the ulcer, and if this is centrally placed the pupil will be covered by it and sight very much impaired.

The involvement of the iris may result in adhesion between iris and lens and occasion glaucoma. Perforation of the cornea might allow the entrance of the disease germs to the interior of the eye and cause panophthalmitis.

Even after healing of the ulcer, a dangerous sequel may develop, namely staphyloma of the cornea. The scar from healing being weaker than the normal cornea, yields to the intraocular tension and a bulging occurs at this point. This may increase and necessitate the removal of the eyeball.

#### Treatment:

Careful and thorough disinfection of the conjunctival sac with slightly warmed bichloride of mercury solution, 1-5000 should be practiced after any suspicious injury or abrasion of the cornea.

Pressure over the lacrimal sac will determine whether or not there is any retained secretion there, and if so, this cavity should be regularly and thoroughly irrigated with the lacrimal syringe, a solution of bichloride 1-5000 being used.

The edges and outside of the eyelids and also the surrounding parts of the face should be kept clean with the same solution, and the patient should be warned not to touch his eye with dirty fingers or soiled handkerchief. A bandage should be applied with enough cotton over the eye to keep the lids firmly closed. This prevents irritation of the eye by constant winking and so allows healing of the wound. If it appears that infection of the wound has already occurred, irrigation of the conjunctival sac should be practiced every two hours and the bandage replaced after each treatment.

Atropin is valuable in that it dilates the pupil, thus preventing posterior synechiae, and secures rest to the eye by paralyzing ac-

comodation. In some cases atropin can not be used as there is apt to be increased tension. In such, eserin or pilocarpin is indicated.

Hot applications to the eye by means of cloths wrung out of water as hot as can be borne and frequently changed, are of the greatest value.

To accomplish the most good, the cloths should be quickly changed every half minute, or minute, and the applications continued for half an hour. Heat thus applied three times a day influences markedly the circulation of the eye, relieves the congested vessels and lymphatics, and promotes absorption of the inflammatory products.

Should the ulcer show signs of progressing, this should be promptly checked by cauterization of the advancing border. This is best accomplished with the galvano cautery, a fine tip being heated to a red glow. Or a small tip of the thermo cautery may be used in the same manner. If these instruments are not at hand, the floor and sides of the ulcer may be cauterized with pure carbolic acid or with a 12% solution of nitrate of silver applied with a very delicate cotton applicator. Care should be taken not to let any excess of fluid run over the healthy cornea. The cauterization by any method may be facilitated by first dropping into the eye an alkaline solution of fluorescein (1%) which distinctly outlines the ulcer by staining it a bright green, whereas the normal cornea remains uncolored. Cauterization of the border of the infectious ulcer when properly done is the most valuable treatment that can be practiced, and effectually checks the spread of the disease in most cases.

If there is considerable hypopyon, paracentesis of the anterior chamber may be done through the lower part of the cornea. Such a procedure is more positively indicated if the tension is slightly increased. Through the wound the pus escapes, but rapidly accumulates again unless the wound is opened each day.

Finally the general nutrition of the patient must be looked to very carefully. I regularly give a calomel purge in such cases.

and follow it with some tonic in which quinine figures. A nutritious but plain diet is also indicated.

The disfiguring scar that frequently remains after a severe ulcer, may be very satisfactorily concealed by tattooing; and if the scar is centrally placed so as to obscure the pupil, an artificial pupil can be made by an iridectomy behind some clear portion of the cornea.

I should like to emphasize the importance of thorough cleansing of the lacrimal sac in these cases, for it is here that the source of infection is so frequently found. The stricture of the nasal duct that causes retention of fluids in the lacrimal sac, should be dilated so that there may be natural drainage. If this can not be accomplished satisfactorily the sac should be completely excised and the mucous membrane of the nasal duct destroyed so as to obliterate that canal. In cases of obstinate lacrimal disease, in poorer individuals whose occupation renders them liable to injury of the cornea, I am satisfied that excision of the lacrimal sac and nasal duct is a wise measure for the prevention of infectious ulcer of the cornea.

To recapitulate, infectious ulcer is a serious lesion of the cornea which is most frequently caused by the pneumococcus gaining entrance through a wound of the epithelium. The pneumococcus may be present in the retained secretion in the lacrimal sac. Prompt recognition of the infective nature of the lesion, and active treatment, at the beginning may do much toward saving the eye. Cauterization of the ulcer should be practised if the ulcer shows signs of progressing. Finally, in obstinate cases of lacrimal disease, excision of the lacrimal sac, is a wise preventive measure.

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#### ACUTE PANCREATITIS WITH REPORT OF A CASE.\*

BY F. A. GUTHRIE, M. D., LA SALLE.

The comparative rarity of this condition, or at least the recognition of it, has made

impossible the same amount of research and clinical experience as in most other diseases and conditions of the human body. It has only been within the past few years that diseases of the pancreas have been recognized, and it is a deplorable fact that today, the most of the cases are discovered post-mortem.

Fitz in 1889 was the first to call attention to the distinctive characteristics of pancreatic disease. Since that time, investigation along that line has become more general, and foremost among these investigators are Opie, Korte, Hildebrand, Balser, Mikulicz, Dettmer, and others.

For a number of years the etiology of this condition was very little understood. It occurs much more frequently in men than in women, and usually between the ages of 20 to 65. Alcohol seems to be an important causative factor, and the patients are usually fat. There is often the history of dyspepsia, with attacks of pain in region of stomach, and vomiting; dating back some times for years. Opie, of Baltimore, and others, have advanced the theory recently that the great majority of these cases are caused by gall stones.

He has demonstrated the existence of gall stones (either in gall bladder or common duct) in a great many cases, dying of pancreatitis. Owing to the intimate anatomical association of the common bile duct, and the duct of Wirsung, a gall stone impacted in the diverticulum of Vater causes regurgitation of bile into the pancreas. The pancreatic and common bile duct open into the duodenum in common in about 90% of cases. Other concretions, and malignant diseases may act in the same way as gall stones.

Opie has demonstrated that the injection of bile, into the pancreatic duct of the dog, will cause hemorrhagic pancreatitis, and death within a few hours. Upon post-mortem examination all the pathological finding of pancreatitis are present. Other irritating substances, as various acids, artificial gastric juice, alkalies, etc., injected into pancreatic duct, will produce the same effect. Some writers claim that regurgitation of hyper acid gastric juice into the pancreatic

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duct may account for some cases. This is not at all impossible when we remember that the duct opens into duodenum, about four inches below pylorus.

Opie reviews 42 cases, that were associated with gall stone. In eight of these the stone was found in the common bile duct and diverticulum of Vater, in the remaining cases it is not stated whether they were in the duct or only in gall bladder. A large percentage of these cases showed jaundice. Kroft<sup>1</sup>, reports 10 cases with gall stones in only two. W. J. Mayo<sup>2</sup>, reviews 13 reported cases, 10 of which were associated with gall stones. Munroe<sup>3</sup>, gives nine cases, two with gall stones. Rixford<sup>4</sup>, reports three cases, all with gall stones.

The pathological findings in acute pancreatitis are enlargement of the gland, with deep congestion and hemorrhage in the gland tissue. This congestion extends to the neighboring tissues to a certain extent, and presents almost the appearance of gangrene. When hemorrhage is severe and condition has lasted for any length of time, gangrene is present. Another condition that is almost always present, and considered pathognomonic is fat necrosis.

This was first described and associated with pancreatic disease by Balser in 1882, and is often called the fatty necrosis of Balser. These are peculiar milliary like, white or yellowish specks, varying in size from a pin head to a small pea, scattered around the roots of the mesentery and omentum, in region of pancreas. There are sometimes found over entire abdominal cavity. Langerhans has shown that these changes within the fat cells are due to the splitting of the fat molecule into its fatty acid and glycerine. The glycerine becoming absorbed, leaves the fatty acids to combine with the calcium and sodium salts of the tissues. There is still some question as to the cause of fat necrosis, and several theories are advanced. At first the investigators tried to place the blame on micro-organisms, and found different bacteria in the necrotic spots in many instances. The most common one found in these cases being the bacillus coli communi. The evidence did not bear out the bacterio-

logical theory, so it has been practically dropped.

The fat necrosis being found usually in close proximity to the gland, suggested that it was due to its own products. Investigators injected pancreatic juice into the abdominal cavity and fat with slight success. Hilderbrand and Dettmer ligated the gland in a number of cases and produced fat necrosis in a fair proportion. Ligating the veins and cutting off blood supply, produced same results in some cases. In these, however, the condition was only found in the immediate vicinity of the gland, and not general as it often is in the human. Opie experimented on cats, and tied both ducts of the gland with two ligatures on each; cutting between them. He then sewed the omentum over the cut ends of the ducts.

The cats lived from 1 to 25 days, and when examined showed fat necrosis extending more or less over entire abdomen; and even on fat of pericardium in one case. The longer the cat lived after the operation the more extensive was the process. The evidence which we have here, practically proves that fat necrosis is due to the action of the products of the pancreatic gland on the surrounding fat. It is a well known fact that the pancreas is often found on post-mortem, to be partially or wholly digested, but in these cases fat necrosis is not present.

Self digestion has taken place immediately after death without effecting the surrounding fat. Thus we further prove that fat necrosis is produced by the action of the fat-splitting ferment of pancreatic juice, only on living fat. Anything that causes obstruction of the duct, or hemorrhage into the gland, produces a condition which causes the escape of pancreatic fluid, and we have acute pancreatitis, and fat necrosis. This bears the same relation to pancreatic obstruction that jaundice does to obstruction to the common bile duct.

The symptoms of acute pancreatitis are severe pain in the upper part of abdomen with vomiting. There is great oppression and anxiety, faintness with tendency to collapse. There is often history of constipation for two or three days. Pain not relieved

by the ordinary remedies. Often give history of previous attacks of pain and vomiting, or of having stomach trouble for long time. The vomiting may be projectile and very much larger quantities than can readily be accounted for. Tympanitis is marked. Heart soon shows signs of failure, collapse comes on, and death occurs sometimes in a few hours after the first symptom.

It may be mistaken for internal obstruction intussusception, acute peritonitis, perforating ulcer of stomach, or gall stones.

The treatment of this condition is still somewhat of an open question. Some writers advocate the expectant plan, while others immediate surgical treatment. Pels Lensen reports three cases treated by simply opening the abdomen under cocaine and draining. Two of them were moribund at time of operation and they recovered. This certainly is all that can be done in the acute stage in first few days, as there is so much shock that any more extensive operation would not be justifiable. Some authors believe in waiting until after the first three or four days, and then operating; among these are Mikulicz, and Woolsey of New York. The chances for recovery are fairly good after the first three days even without an operation. Bloodgood reviews the results after looking up all reported cases. There are 75 cases reported, and of these 25 recovered, 13 of them after being operated on during acute attack. Leaving 12 who recovered without operation. Of the 50 that died, 23 were operated on during acute attack, and 27 were not operated on.

To sum up:

Operated upon during acute attack.	36
Recovered.....	13
Not operated on.....	39
Recovered.....	12

This shows the balance a little in favor of operation.

The case which I wish to report is the following: May 18, 1900. C. E. D., Male, age 31, height 5 ft. 10 or 11 inches. Weight about 240lbs. Member of a minstrel troupe. Sent for me hurriedly about 5 P. M. He gave the following history: Had not felt well for a couple of days, but had taken his

part in troupe right along, and had marched in their parade about noon. He said he had been quite a drinker for several years, but had been drinking harder than usual past two months. Said he had stomach trouble for a year or two, attacks of vomiting and pain which would last three or four days, and pass off. I found him with severe abdominal pains and vomiting, pulse and temperature normal. Bowels had not moved for two days. Administered morphine hypodermically, Mag. Sulph. to relieve bowels, put him to bed.

In an hour no relief from pain, and vomiting very severe; which would come on so suddenly that he could not raise up in bed quick enough to get the vessel. Much tenderness in upper part of abdomen and tympanitis. More morphine hypodermically. Two hours later no relief but getting worse, suffering intolerable, anxious and restless, knew he was going to die. Still vomiting, but vomit had changed in character. It was full of a dark substance which looked more like old dusty cobwebs, than anything else that I can compare it to. It was not blood, as it was not black enough, and was in fine shreds, and it was not feces. Pulse still normal. Gave more morphine hypodermically, which gave no relief.

At 11 P. M. condition getting worse, pain more severe, vomiting, and heart beginning to show signs of failure. His symptoms became more alarming from this time on. Used stimulants hypodermically, but he grew worse gradually, shock becoming more severe, and he became moribund and died at 3:30 A. M. ten hours after I first saw him.

As I had at first made a diagnosis of intestinal obstruction, and finally none at all; for he would not die so soon from that cause, I was anxious to find out what killed my patient. I succeeded in getting a post-mortem, but was only permitted to examine the abdominal cavity. I found no obstruction of the bowels, or any perforation of them. The liver was quite a good deal enlarged and fatty. Stomach normal, except much congested at the back, in region of pancreas. The pancreas was enlarged, and very much congested, almost gangrenous, and

the root of the mesentery and omentum in that vicinity showing interstitial hemorrhages.

There was no fat necrosis in this case, which I think is explained by the fact that he was sick such a short time, that the ferment from the pancreatic juice did not have sufficient time to produce its effect. Gall stones were not found; as I did not examine carefully for them at that time.

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1. Journal American Medical Association, Volume 33, Page 1605.
2. Journal American Medical Association, Volume 39, Page 808.
3. Journal American Medical Association, Volume 39, Page 809.
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### LUMBAR PUNCTURE: ITS VALUE IN DIAGNOSIS AND TREATMENT.\*

BY E. P. COOK, M. D., MENDOTA.

Although puncture of the spinal meninges was first employed by Quinke in 1890 for the relief of the intracranial pressure in tuberculous meningitis, general attention was not attracted to the procedure until 1895, when Furbringer reported the striking results obtained in a series of cases in which he had resorted to lumbar puncture for diagnostic rather than therapeutic purposes. Since then the field of application of lumbar puncture has been greatly extended, and at the present time it has become an established operation for diagnosis and only in less degree a recognized means of treatment.

The technique of spinal puncture is simple and the procedure when aseptically performed is practically free from danger. Pfaundler reported two hundred lumbar punctures without a single bad result. In one case only of his series was there collapse, due to the removal of an excessive amount of fluid. Northrup noted no ill effects in fifty cases. Gumprecht in 1900 collected fifteen cases of sudden death following lumbar puncture and added two cases of his own, but he failed to definitely connect the unto-

ward results with the operation itself. Those observers who have had the largest experience with the operation are agreed that when properly performed it is harmless.

As a result of the extended use of lumbar puncture careful studies have been made of the cerebro-spinal fluid *intra vitam*. These investigations have thrown a flood of light on many hitherto obscure problems in the pathology and etiology of affections of the cerebro-spinal meninges and have modified our views regarding certain acute and chronic diseases in which these structures are involved. Although the diagnostic value of lumbar puncture far exceeds any therapeutic value yet discovered for the procedure, it is nevertheless a welcome addition to therapeutics in a field where the resources at our command are yet very meagre.

The normal cerebro-spinal fluid is perfectly clear. Sicard, Widai and others have shown that in health it contains scarcely any cellular elements; there is an entire absence of polymorphonuclear leucocytes and the small mononuclear cells or lymphocytes are very scanty if present at all. Albumin is present as a faint trace (0.02% to 0.04%) and there is no fibrin. Sugar is normally present, but according to Pfaundler, sugar disappears in acute inflammatory disease of the meninges. This observation, however, lacks sufficient confirmation to be of diagnostic weight. The amount of fluid allows of no definite conclusions, except that a great amount of fluid as shown by very high pressure is most frequently met with in tuberculous meningitis. An increase in the albumin (more than 0.05%) in the absence of blood, points to tumors or inflammatory disease and a considerable excess of albumin in a clear fluid, according to Pfaundler, is almost a certain sign of tuberculous meningitis.

Wentworth states that in meningitis the withdrawn fluid is invariably cloudy. The degree of cloudiness, however, depends on the number and character of the cells in the meningeal exudate. It is sometimes so slight as to be detected with difficulty. While therefore marked changes in the gross ap-

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pearance of the fluid are of suggestive value, reliance should only be placed on a complete microscopical and bacteriological examination. The necessity of thorough examination is emphasized by the experience of Barr who reported cases of purulent meningitis in which puncture showed a clear fluid. A cardinal rule in estimating the results of lumbar puncture has been insisted on by Hand who declares that positive results only are of diagnostic value; it is unsafe to draw any conclusions from negative findings. For example, although the demonstration of tubercle bacilli in the fluid constitutes a positive diagnosis of tuberculous meningitis, failure to prove their presence does not necessarily exclude the disease. Occasionally fluid may not be obtained. This failure is usually due to faulty technique, but rarely it may result from the thick, waxlike character of the exudate as in a case mentioned by Packard in which the diagnosis was proven by post mortem examination.

An admixture of blood in the spinal fluid may be accidental from the operation. Such an explanation is excluded when repeated punctures show persistence of the same amount of blood. The stage of the disease in which the puncture is resorted to must always be considered. Puncture made late in the attack may fail to show changes which were pronounced at an earlier period.

The bacteria most frequently found in the cerebro-spinal fluid are the tubercle bacillus, the meningococcus intracellularis of Weischelbaum, the pneumococcus and the streptococcus and staphylococcus. The tubercle bacillus can usually be demonstrated in the sediment by the ordinary staining methods. By direct examination of the coverslips in this way Pfaundler found tubercle bacilli in 91% of the cases where they were present. Rarely inoculation experiments may be required to make a diagnosis in tuberculous meningitis on account of the scarcity of the microorganisms. Cultures are usually necessary for the proper identification of the meningococcus, pneumococcus and ordinary pus cocci. As pointed out by Councilman, the meningococcus may vary greatly in numbers. Usually they are readily found and in abund-

ance. When present in small number they may be missed on the coverslips, and even when present in large number the culture tubes may show only one or two colonies. The demonstration of the meningococcus is positive proof of the existence of cerebro-spinal meningitis of the epidemic type. In fifty-five cases of meningitis in which lumbar puncture was made, Councilman found the meningococcus in thirty-eight cases. He states that the cocci are most constantly present early in the disease, i. e., at a time when the diagnosis is most difficult from the symptoms alone. The identification of the meningococcus is also important from a prognostic standpoint as these are the only cases in which recovery is likely to occur. Osler states that the pneumococcus cases are invariably fatal.

Cyto-diagnosis, or the study of the cellular elements in the fluid, has yielded some interesting and valuable results. As already stated, normal cerebro-spinal fluid contains few or no cells. In diseased conditions, leucocytes of one type or another may appear in greater or less abundance. The number of cells will determine the degree of cloudiness of the fluid while the type of cells which preponderates will furnish information as to the nature of the infective agent. Generally speaking, the presence of the large polymorphonuclear leucocytes is indicative of an acute microbic invasion of the meninges, while the small mono-nuclear lymphocytes are found in the subacute and chronic affections and especially in the tuberculous form.

In purulent meningitis there is polymorphonuclear leucocytosis and the lymphocytes are scanty. A lymphocytosis is met with in tuberculous meningitis. The explanation of these findings is interesting. The polymorphonuclear leucocytes are cells of the highest phagocytic capacity and therefore appear in the onset of an acute bacterial infection. The lymphocytes being of inferior resisting power occur in the subacute inflammations of which tuberculous meningitis is a good example.

Lymphocytosis of the cerebro-spinal fluid has also been noted in certain chronic toxic

affections, and especially in tabes and general paralysis. In the latter affections, lymphocytosis is the rule, positive results having been found in 116 of 125 cases of these two diseases, which were reported to the Neurological Society of Paris in March, 1903.

Care is necessary, however, in cyto-diagnosis. A case reported by Pighini illustrates an interesting fallacy. A diagnosis of a tubercle process was made where subsequent recovery suggested an error in diagnosis. He explains the mistake thus: Cyto-diagnosis was made too late, a lymphocytosis having already replaced the initial polymorphonuclear leucocytosis excited by the bacterial invasion. Widal also cites an interesting case which, while apparently showing the uncertainty of cyto-diagnosis, proves its accuracy. A patient with general paralysis developed a polymorphonuclear leucytosis due to an apoplectiform attack. A lymphocytosis reappeared with the subsidence of the congestive symptoms.

Cyto-diagnosis of the cerebro-spinal fluid has been attempted in some forms of mental disease and in a number of nervous diseases but with the exception of tabes and general paralysis no definite diagnostic conclusions are justifiable. The cerebro-spinal fluid has been found normal in Freidreich's ataxia, cerebellar hereditary ataxia, multiple sclerosis, syringo-myelia, polyneuritis, poliomyelitis, epilepsy and neurasthenia. Positive changes have been noted in syphilitic meningo-myelitis, lead paralysis, herpes zoster, and in some cases of chorea, but further observations are necessary to decide the exact value of these findings.

In the diagnosis of the intracranial complications of ear disease, lumbar puncture may afford valuable information. Schwartz of Halle has satisfactorily employed the method in his clinic for several years. He says that normal clear fluid excludes diffuse purulent meningitis in cases of otitis presenting intracranial complications. Cyto-diagnosis offers much aid in the differential diagnosis of suspected purulent meningitis and tuberculous meningitis complicating otitis. A considerable increase in the amount

of spinal fluid in these cases, according to Schwartz, points to the occurrence of sinus thrombosis.

The field of usefulness of lumbar puncture in treatment is as yet limited. Naturally it has been employed most frequently in the various forms of meningitis but with variable results. Hitherto the treatment of meningitis has been merely palliative or symptomatic. Lumbar puncture is a remedial measure which theoretically at least is reasonable. The symptoms of meningitis are due chiefly to the toxæmia and the mechanical effects of the increased intra-cranial tension. It is rational therefor to conclude that the withdrawal of a considerable amount of inflammatory exudate containing the specific germs in large numbers should exert a favorable influence on the course of the disease. Clinical experience has shown that lumbar puncture is of value in the treatment of meningitis, but it is to be remembered that in a disease like cerebro-spinal meningitis which is apt to present a casual remission of symptoms and signs, very great care is necessary in drawing conclusions regarding the value of any single remedy. Koplik has reported five cases of meningitis in children in which lumbar puncture was done with four recoveries (the fatal case occurring in a child aged eight months). Relief of the symptoms due to the pressure and toxæmia followed the tapping which was repeated according to the indications in each case, most of the cases being tapped three times in the course of the disease. In view of the fact that we have no specific remedy in cerebro-spinal meningitis, I believe that every case of the disease should be given the benefit of repeated lumbar punctures, because this line of management is rational and has shown the best results so far recorded.

Bochard reports several cases of head injury in which the escape of a small amount of the cerebro-spinal fluid aroused the patient from stupor and hastened recovery. Marie and Gullian noted relief of headaches of syphilitic origin, following lumbar puncture. Recently Babinski has recorded eight cases in which lumbar puncture was

resorted to for the relief of symptoms incident upon chronic aural catarrh. The patients were invariably relieved of the subjective noises and the deafness was markedly improved, in some cases permanently. In chronic hydrocephalus lumbar puncture produces temporary improvement, but it is not curative. This is the conclusion arrived at by Raczyński after testing the method in twenty-six cases of hydrocephalus.

The withdrawal of a small amount of cerebro-spinal fluid by lumbar puncture preliminary to the subarachnoid injection of antitetanic serum in tetanus has been frequently done of late. It is the most effective simple method of exhibiting the antitoxin in this disease. In July last I saw a case of acute tetanus in a boy of twelve years on the 4th day of the attack, which followed a pistol wound of the palm of the hand, 20 c.c. of cerebro-spinal fluid were removed by lumbar puncture and 15 c.c. of antitoxin injected into the spinal canal. No effect was produced on the course of the disease which rapidly terminated fatally.

The rôle of lumbar puncture in the method of subarachnoid cocainization for anaesthesia is chiefly of surgical interest.

In conclusion, I wish to present two illustrative cases in which lumbar puncture was employed:

Case I. Young negro, aged 16. First consulted me April 12, 1902, giving a history suggestive of incipient lung disease. Examination was entirely negative except for a few faint râles in the right apex after coughing. The lymphatic glands were normal. Temperature 100.6° F., pulse 116, respirations 18. Sputum examination was twice negative. Repeated examinations of the sputum, which was scanty and obtained with difficulty, finally showed a very few tubercle bacilli.

On May 1st, careful examination of the chest failed to reveal any physical signs of disease. Temperature was 100.8° F., pulse 120, respirations 18. Two days later there was sudden onset of vomiting which persisted for forty-eight hours, and was followed by severe headaches, chiefly frontal. Pain developed in the back of the neck and

there was rigidity of the cervical muscles. The patient remained mentally clear, but very restless, rolling about in bed. The pulse rate fell to 52, full and regular, with a subfebrile temperature. The urine showed a trace of albumin, several hyaline casts and a few red blood cells. No ocular changes were noted. Moderate delirium slowly developed, gradually passing into coma. The pulse rate remained slow finally rising to 84, with normal temperature and respiration just before death, which occurred in coma, May 16, 1902. Lumbar puncture was made post mortem and 15 c.c. of clear fluid removed. A few tubercle bacilli were found in the centrifuged fluid, thus confirming the clinical diagnosis of tuberculous cerebro-spinal meningitis supervening on incipient pulmonary tuberculosis. Cultures on blood-serum were negative.

Case II. School girl aged 10. Seen in consultation Feb. 6, 1903. Onset of attack was sudden two days before with headache and vomiting. Examination showed pulse 92, temperature 104° F., respiration 32, irregular of Cheyne—Stokes type. Patient lay in coma, on the left side with the limbs drawn up. Head retracted and muscles of neck rigid. Herpes labialis marked. Eyes and ears negative. No facial paralyses. Heart, lungs and skin normal. Kernig's sign distinct. There was slight paralysis of right foot, producing inversion and flaccidity. The urine contained considerable albumin and a few hyaline casts. Lumbar puncture was performed and 20 c.c. of clear fluid withdrawn. Coverslips were negative. Cultures on Loeffler's blood serum showed diplococci in pure growth, resembling morphologically the meningococcus. Following the lumbar puncture there was slight but gradual improvement in the symptoms. The coma persisted for nearly two days, gradually disappearing. On Feb. 11, 1903, the temperature was normal and convalescence established. Subsequent recovery was rapid and there were no sequelae. Aside from the lumbar puncture the treatment was purely symptomatic.

#### Discussion on Dr. Cook's Paper.

Dr. E. C. Franing, Galesburg: If we had a case of fluid in the peritoneal, pleural or any



other cavity, we certainly would not hesitate to aspirate for diagnostic purposes. And this is much more important when we have fluid in the spinal canal, because there we have, in the first place, a bony canal, which is unyielding to any amount of pressure, and second, contained in that cavity is one of the most vital and important organs of the body. For that reason, if for no other, it is important that the condition should be relieved.

It seems to me that there is nothing more rational than lumbar puncture; therefore, I consider this one of the best papers read before this section.

In this connection I want to report, briefly, two cases. The first was a case of tubercular meningitis, which was relieved greatly by lumbar puncture. The second case was one of a shot into the hand. Tetanus developed on the fourth day. I operated, removing the foreign body from the hand, but without obtaining any relief. The temperature continued and went up to 106° F. Tetanus antitoxin had been used, but in too small amount. We did a lumbar puncture, withdrew some of the fluid, and injected 20 c.c. of tetanus antitoxin, which was followed by quite marked amelioration of the symptoms within twenty-four hours, and from that time on the boy continued to improve steadily and finally got well.

I read in some medical journal recently, the name of which I cannot recall, of several cases in New York where lumbar punctures were made in cases of uremia following nephritis, and in every case, in a series of twelve, the patient regained consciousness while the needle was in the spinal canal. It seems to me that such cases as these prove the value of lumbar puncture. On theoretical grounds, at least, lumbar puncture is suggested in such cases.

**Dr. John F. Sloan, Peoria:** I wish to report two cases of tetanus occurring in my practice in 1902, and treated by lumbar puncture and injections of antitetanic serum. The first, a boy 16 years old, developed symptoms of tetanus on the eighth day after the injury was inflicted. On the morning of the ninth day I withdrew about 20 c.c. of the cerebrospinal fluid by means of a lumbar puncture and injected an equal amount of tetanus antitoxin. This was repeated twice daily until 150 c.c. of serum had been injected. Then the irritation about the point of puncture necessitated continuing the injections subcutaneously. After the second injection the symptoms did not increase, although they remained stationary for several days. On the tenth day the patient developed a lobar pneumonia, and six days later a nephritis with complete suppression of the urine.

After being comatose for about forty-eight hours he began to improve, and at the end of about six weeks he was discharged completely cured.

The second case occurred in a man, in which the incubation period might have been six weeks because he was operated six weeks before I saw him, and he was injured two weeks before the operation. It was a very mild case. We injected 60 c.c. of the serum in the course of a few days. One point of interest in this case was that after the symptoms had subsided we stopped injecting the serum for about two days, but continued the use of bromides and morphine, occasionally, and chloral, but in spite of these remedies the tetanic convulsions recurred and we again had to resort to the use of the serum, which within eight or ten hours caused all the symptoms to subside.

In these cases we also curetted the site of the injury and packed the wound, part of the time, with gauze saturated with peroxid of hydrogen, and part of the time with some of the serum left over from the injections.

Both these patients made a perfect recovery, and have not had any recurrence of the convulsions up to the present time.

**Dr. Cook** (closing the discussion): I wished in my paper to direct more particular attention to lumbar puncture as an additional diagnostic measure, and also as being of value in the treatment of inflammatory diseases of the cerebrospinal meninges.

The question of the subarachnoid injection of antitetanus serum, depends rather on getting the serum immediately in contact with the affected tissues, rather than upon the method of lumbar puncture itself. And the value of the serum as a remedial agent depends on the serum itself rather than on the mode of exhibition.

Lumbar puncture has opened up another part of the body to more accurate diagnosis, and therefore it is a measure that should be used more extensively. The exact status of the method has not yet been determined, but the results obtained thus far warrant a further study of the method.

#### NEW INCORPORATIONS.

The Secretary of State at Springfield has issued licenses to the following:

Crary Chemical company, Chicago; capital, \$5,000; manufacturing proprietary medicines; Charles M. Foell, H. S. Gemmill, J. R. Perry.

Washington Park hospital, at Chicago; capital, \$50,000; conduct a sanitarium; incorporators, G. Edwin Sandstedt, John W. Swanstrom, George E. Q. Johnson.

Harvey Medical College Alumni association, Chicago; not for profit, fraternal purposes; Frances Dickinson, Frank M. Tebbetts, Susan I. Moody.

Royal Sanitarium of Chicago, Chicago; capital, \$25,000; maintain a sanitarium; incorporators, Sydney Flower, Richard J. Mulroney, Charles S. Knudson.

# The Illinois Medical Journal.

The Official Organ of the State Medical Society.

AUGUST, 1904.

NEXT ANNUAL SESSION, ROCK ISLAND, MAY 16, 17, 18, 1905.

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Peoria.

Fred Zapffe,  
1764 Lexington st., Chicago.

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The figures before the names of the Councilors refer to the Councilor Districts.

### The Council.

- (1) J. H. Stealy, Freeport.
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- (8) W. K. Newcomb, Campaign.
- (9) J. T. McAnally, Carbondale.

## THE MEDICAL PROFESSION AND THE STATE INSTITUTIONS.

On page 276 we give place to a paper prepared for the 59th annual session of the Ohio State Medical Association by Dr. A. P. Ohlmacher, of Gallipolis, Superintendent of the Ohio State Hospital for Epileptics. We commend the reading of this paper to every member of our State Society. Dr. Black in his Presidential address gave voice to much the same sentiment as Dr. Ohlmacher upon this subject.

Conditions in Ohio, we happen to know, are much better than in Illinois and yet they are not ideal there and can never become so in either State until the Medical Profession is aroused to do its full duty by the State

Institutions. As Dr. Ohlmacher well says "So long, however, as the Medical Profession by its inactivity or indifference, countenances political intervention in the Medical Institutions of this State, so long will this regime continue and so long will the Medical Scientific work be hampered or restricted." Dr. Ohlmacher again well says "The profession owes this obligation not to itself alone but to the great public which must look to the Medical Profession for advice and guidance in this, as in other questions of Medical Sociology."

Dr. Ohlmacher is a reader of the Illinois Medical Journal and refers to the agitation which we have been making to bring about

a re-organization of the State Institutions of Illinois.

#### THE MEDICAL MAN'S VACATION.

The Editor of the New York Medical Record in discussing this subject concludes that the city practitioner should at least once in a year seek seclusion from the noise and turmoil of city life by an ocean voyage or a visit to the country. The country doctor on the contrary can best employ his time by a visit to the city. His most sensible statement is that perhaps there is no more healthful and pleasant mode of taking a holiday for the country practitioner than attending the meetings of the American Medical Association and of his State and County Medical Society. Such communion is of inestimable advantage in many ways; he receives new ideas, and some of the rust which is gathered upon him in his necessarily contracted sphere of life is rubbed off. Over and above these advantages the mixing in the social life of his equals, denied him to a great extent when at home, tends to enlarge his views. The unaccustomed stir and bustle of the town or of the pleasure resort in which the meetings are held stimulate his faculties, dulled by the monotonous routine of his daily toil, and elevate his entire being, so that he goes back to his work like a giant refreshed. The feminine part of his family can also participate in the social amusements which are a part of present day Medical Meetings with equal benefit.

#### MISSOURI ADOPTS THE JOURNAL IDEA.

The Missouri State Medical Society at its last session decided to publish its transactions in the form of a monthly Medical Journal entitled *The Journal of the Missouri State Medical Association*. The initial number appeared July 1. Dr. C. M. Nicholson is editor and he is assisted by Drs. C. Lester

Hall, F. J. Lutz, Woodson Moss, M. P. Overholser, Robt. T. Sloan, and L. A. Todd. The Journal idea is being rapidly adopted by the various State Medical Societies. Ohio will undoubtedly adopt the idea which has been before the Society for discussion at its last two sessions. New Jersey is about to journalize its transactions. The State Societies now issuing their transactions in Journal form, are Illinois, Pennsylvania, Kentucky, Wisconsin, Missouri, Mississippi, Nebraska, Kansas, Colorado, California, Michigan.

A meeting of the Editors of the State Society Journal was held in Atlantic City during the sessions of the A. M. A. and we are informed that the Secretary of this meeting, Dr. Bullitt, of Louisville, is about to issue a circular letter to the various Journals outlining the objects of the Association.

#### CHICAGO CLEANLINESS.

Our great metropolis of which every citizen of Illinois has such reason to be proud, is proving herself capable of becoming and remaining clean. For years the filthiness of the down town districts has been a source of criticism from visitors and a source of grief to the citizens. Finally matters became so bad that it became absolutely necessary to make a change. The merchants grappled the problem and imported an expert from New York to superintend the "white wings," organized after the system so long in vogue in the East. The results of this work are now becoming apparent and a visit to the city recently revealed such a change that we consider it worthy of remark. Of course if one part of the city can be made and kept clean all other parts can. A concerted movement by residents and property owners would undoubtedly bring about this universal house cleaning so much to be desired and result in making the city still more remarkable for its low death rate.



### SCANDAL AT THE ELGIN INSANE HOSPITAL.

Attendants recently discharged from the Northern Hospital for the Insane at Elgin have made sworn statements charging inhuman treatment of patients resulting in many cases in death. The Elgin Trades Council took up the matter and sent the Governor a petition asking a rigid investigation of the affair. Supt. Frank S. Whitman made reply immediately denying the truth of these charges and insists that if the alleged evil did exist that they were so covered up by the men who are now making the charges that they escaped his notice and that all except one of the patients named in the affidavits died in years past. The daily press has taken up this matter and has severely criticised the formation of a union among the attendants of the different State institutions. At the same time they demand an immediate and impartial inquiry of the charges made. It is probable that nothing will come directly from this investigation, but it is to be hoped that this and similar scandals which have arisen in recent years will result in bringing about a form of civil service in the State institutions in the near future.

### SPECIAL TUBERCULOSIS ISSUE.

The papers read before the State Society at its last meeting on Tuberculosis will appear in the September issue of the Journal. It was thought best not to print the important papers forming the symposium on Tuberculosis during the vacation period, but to issue it in the fall when all physicians in the State have returned from their vacations, prepared to take up the active work of eradicating the white plague from the calendar of diseases.

### "A" MISTAKE.

The title of Dr. Hollister's excellent eulogy of Dr. Nathan Smith Davis was badly

marred by error of the printer who misconstrued a mark on the final proof and thereby greatly mangled the latin which should have read: In Memoriam Patris Societatorum or auglicized, In memory of the father of societies.

## Correspondence.

### Treasury Department.

#### Bureau of

Public Health and Marine Hospital Service,  
Washington, D. C., June 29, 1904.

A board of officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, 3 B Street, S. E., Washington, D. C., Monday, October 3, 1904, at 10 o'clock a. m., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine Hospital Service.

Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1. Physical. 2. Oral. 3. Written. 4. Clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital and when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainment on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago or San Francisco.

After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade.

Assistant surgeons receive sixteen hundred dollars; passed assistant surgeons, two thousand dollars, and surgeons, twenty-five hundred

dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, and fifty dollars a month, according to grade, is allowed.

All grades above that of assistant surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address Surgeon General,

Public Health and Marine Hospital Service,  
Washington, D. C.

#### Death From Poisoning by Methyl Alcohol. The Learned Coroner.

Barry, Ill., July 10, 1904.

At 3 o'clock on the morning of June 30th, I was called to see O. P. Bradshaw, at the home of A. Messick, near Barry. I found him dead. Bradshaw was the county agent for the "Dr. Reeder Family Medicine Co." of Peoria. I found upon inquiry that he was in the habit of taking some of "Dr. Reeder's Pure and Unadulterated Jamaica Ginger" for a stomach trouble. Bradshaw arrived at the home of Messick at 5 p. m., June 29th, in a semi-intoxicated condition. He had not been able to secure whisky at Barry, and had evidently been drinking some of his Jamaica ginger as several empty bottles were found in his buggy. The train of symptoms were those of methyl alcohol poisoning. I secured a number of samples of the substance and upon analysis was not surprised to find that it was made with methyl alcohol. A coroner's inquest was held and a verdict given of death from "heart failure." My testimony was not asked and I was not summoned to the inquest. There is no evidence to justify the verdict. The man was 38 years old and apparently in excellent health.

I simply mention all these facts to show that the methyl alcohol evil is still with us in unsuspected forms. You will remember that I brought this matter to the attention of the profession and the Pure Food Commission, last year. I wish also to show that our public officers are as listless as they are expected to be. I will report this case to the State Board of Health and I shall be surprised if I hear from it again.

One is surely justified in thinking that most of our official business is a sham.

I am informed upon good authority—that of a trained nurse in hospital work—that methyl alcohol is used in some of our public hospitals—in the bath and for internal use. When the nurse protested against its use she was informed that "if they use the other alcohol they must pay for it."

It is well to remember the cases of blindness mentioned by me from using methyl alcohol in the bath and the cases reported by Dr. Casey A. Wood from inhaling the substance.

Yours very truly,

R. H. Main.

I might add, as supplementary to my other letter, that in the last ten days the county coroner has held inquests (?) on the bodies of four men who met violent deaths.

One of these confessed to having taken strychnia and that was assigned as the cause of death.

The verdict in the other three cases was death from heart disease. There was no autopsy on any of these cases and apparently no effort made to ascertain the true cause of death in any of them.

If this sort of thing is being permitted throughout the state there is reason to suspect that many cases of methyl alcohol poisoning are passing unrecognized.

The principal function of the coroner seems to be to show that the last disease was mortal.

Yours very truly,

R. H. Main.

#### Knowledge of Anatomy is Necessary.

Peoria, Ill., July 20, 1904.

To the Editor:

Please allow me, in the interest of public security and professional conscience, to enter an emphatic protest against such an unwholesome inference as that legitimately to be drawn from the last paragraph but one in the article on **Country Surgical Technique**, by Dr. J. A. Baughman, and published in the current issue of *The Journal*. The statement referred to is as follows:

"A certain knowledge of anatomy (is) as a matter of course necessary. But study the position of the main arteries and you and a haemostatic forceps can easily take care of the smaller ones you find as you sever them."

Now, it strikes me that if that expression means anything definite it means that the author attempts to put a comparatively low estimate upon the practical value of accurate anatomic knowledge in surgical manipulations within the abdomen. "A certain" might generously be interpreted as "a thorough," but when in the next sentence specific reference is made to the necessity for studying the location only of the main arteries, in the manner of an apology for even such requirement, one is instinctively led to the conclusion that "a certain" means "an uncertain" knowledge of all the other anatomic structures and relationships usually considered of at least equal importance in the economy of local adjustments and vital stability. Better no reference to anatomic considerations, than such as merely bear out the declaration of Deaver that "in the surgery of the day a vast amount of anatomic ignorance is concealed under a cloak of antiseptic detail."

To my mind we cannot too impressively demand the most painstaking knowledge of anatomy, physiology and pathology on the part of those who assume to reconstructively invade the sacred precincts of the "human form divine."

I, for one, wish to retain the respect I have for country surgery and country surgeons, and therefore beg to admonish the enthusiastic and zealous not even seemingly to promulgate sentiments so at variance with the best teachings

of science. While one can appreciate the evident desire of the author above quoted to widen the field of usefulness of the inexperienced and the timid, it should not be attempted at the expense of scientific knowledge and subsequent defeat. Let the "main" effort be to insist upon as **complete** anatomic and pathologic conception as the state of science justifies.

Very respectfully,

O. B. Will.

516 Woolner Bldg.

## News Items.

**Dr. V. T. Lindsay** and wife of Springfield are spending the summer in Scotland and England.

The State Board of Health has recently issued a pamphlet for popular distribution, entitled: **The Cause and Prevention of Consumption.**

This will be sent to physicians and others free of charge. Our members should see that a copy is placed in every household where there are tuberculous patients.

The entire family of farmer Fred Laughlin, of Wyanet, Ill., were recently bitten by a dog afflicted with the rabies and were successfully treated at the Pasteur Institute at Chicago.

**Dr. Richard D. Dugan** of Illiopolis was recently elected president of the village board of health. Several journals have confounded Illiopolis village with Illinois state and announced Dr. Dugan as president of the State Board of Health.

**Dr. A. R. Graham** of Petaluma, California, formerly of Little York, Ill., has extended his subscription to the Illinois State Medical Journal for two years, stating that it is one of if not the most practical Journals received by him and that he intends to read it as long as he can.

The Supervisors of Peoria County recently entered a protest against the new division of the five counties by which that county is required to send Insane patients to Watertown instead of Jacksonville, a change which it is said involves a great deal more expense and labor.

"**King Solomon**," a 300 pound clairvoyant of Chicago, who calls himself a Hindoo, but who is declared to be a negro, recently filed affidavits accusing Detective Seargeants J. H. Gallagher and P. S. O'Connell with attempting to secure "graft" from him. He will appear before the trial board. "King Solomon" wears red trousers, gilt and crimson robes, and a crown. He has a white wife and tells fortunes at 222 Michigan avenue.

That **Helen Mae Olcott** of Chicago gave up home and husband in order that she might be-

come a physician was charged recently in a successful suit for divorce.

**George C. Olcott**, publisher of a real estate journal, testified they were married in Salt Lake City in 1892. The defendant, he said, had run away from home previously to become a nurse in the Cook County Insane Asylum. Two years ago, he charged, she left 5718 Kimbark avenue, taking their four children, and residing near a medical college.

Olcott, who now lives at 287 Washington boulevard, allowed the defendant to retain the children, whom he will help support.

**Dr. A. Belcham Keyes** has opened an office at 100 State street (Reliance Building). Hours, 12:30 to 2:00 p. m. Telephone Central 379.

**Dr. H. B. Boone** of Chandlerville has been elected a member of the Board of Trustees of Eureka College, of which he is a graduate.

The name of **Dr. Nathan Smith Davis** will be perpetuated by one of the public schools of Chicago, located at California avenue and Thirty-ninth street.

The Alumni association of Harvey Medical College has elected the following officers: President, **Dr. Scott T. Petrie**; Vice President, **Dr. H. Buseman**; Secretary, **Dr. Blanche Weber**; Treasurer, **Dr. Victor Pacyna**; Sergeant at arms, **Dr. G. W. Reis**.

Dearborn Medical college in Steinway hall, July 1, graduated its first class. Fifteen men and three women received diplomas. They were: **Manuel Alvarez**, **Edward K. Armstrong**, **William G. Beek**, **Robert D. Barclay**, **William**, **Peter T. Diamond**, **Philip A. Graves**, **Edward D. Gotchy**, **Gustav E. Henschen**, **Antonio C. Jacobs**, **Grace R. Marvin**, **Samuel Metcoff**, **Harriet D. Mitchell**, **George E. Peterman**, **Charles B. Potter**, **Joseph C. Sayre**, **Edward G. Sepple**, **Lulu Schragar**.

**Dr. Clarence L. Wheaton** who has been practicing in Denver for the last three years has resumed practice in Chicago. Residence, 39 Pine Grove avenue. Hours, 10:00-11:00. Office, 98 State street (Stewart Building, 1:00-3:00 p. m.

**Dr. J. H. Porter** of Clinton suffered the loss by burglary of clothing, a valuable gold watch and a pocket-book containing considerable money.

**Dr. L. L. Leeds** of Lincoln is visiting in Kansas.

**Dr. James F. Chvatal**, a member of the Board of Education of Chicago proposes to have a course in swimming taught in the public schools of that city.

**Dr. R. L. Falley** of Bible Grove has been nominated by the Republicans of Clay county for coroner.

**Mrs. Mary B. Glover Eddy** in her address of 1904 to the Christian Science church has uttered the following gems of thought for the guidance of her followers: "We cannot boast



ourselves of tomorrow; sufficient on each day is the duty thereof. Lest human reason becloud spiritual understanding, say not in thy heart sickness is possible, because ones thought and conduct do not afford a sufficient defense against it."

This wisdom "Mother Eddy" has wisely caused to be copyrighted.

The town board of Glen Ellyn, Cook county recently met to determine how it might force **O. E. Miller** to remove his sanitarium from that village. They will attempt to prove that the hotel in which Mr. Miller conducts his sanitarium in connection with Ruskin University is unsafe. It will be remembered that Miller conducted a sanitarium of this sort in the Woodruff Hotel, Chicago which was destroyed by fire three years ago when 14 of his patients perished.

**Dr. L. A. Glaze** of Grayville, White county, has been made defendant in a suit for \$50,000 for the alienation of his wife's affections by **John Brechner, Jr.**, a prominent citizen of that village.

The will of **Dr. Nathan Smith Davis** of Chicago was recently filed in the probate court of Cook county and disposed of an estate amounting to \$39,000. Dr. Davis had engaged in the practice of his profession for 67 years.

**Dr. George K. Herman** of Chicago is Captain of Company K 1st Regiment which recently was encamped for its tour of duty at the camp grounds near Springfield and afterwards visited the World's Fair as a body.

**Dr. John S. Sweeney** of Chicago recently left that city to visit the Medical Centers of Europe to investigate the emergency hospitals for the Iroquois Memorial Hospital Association. He will be absent about two months.

**Dr. Nathan A. Jones**, formerly of Mt. Pulaski but now said to be a resident of Decatur has filed a petition in bankruptcy in the office of the clerk of the U. S. District Court at Springfield. He schedules his liabilities at \$5,551.35 and his assets at \$23.40.

**Sharppers who work under the guise of "Doctors."** Bankers in central Illinois have been asked to look out for medical swindlers who have been working throughout the State. The writer of the letter is an attorney for a number of victims of fake doctors operating under the name of "The Medical Institute." Among other things he says:

Dear Sirs: A number of men claiming to be doctors have for the last year or so been victimizing farmers in the territory tributary to Chicago by taking their notes in sums ranging from one hundred to five hundred dollars. Strangely enough these notes are usually signed by the wealthiest and more intelligent men of the community, who do not know that they are signing a note.

**Dr. Adolph Lorenz** of Vienna recently entertained the Anglo-Medical Association of Vienna at his beautiful villa on the banks of the Danube near Altenberg. The Illinois physicians present were **W. M. Engelbach**, **G. A. Gardner**, **F. G. Harris**, **J. L. Jacques**, **O. H. Craft**, **W. H. Lam-born**, **G. P. Marquis**, **F. R. Morton**, **Brown Pusey**, **G. W. Parker**, **H. Schafer** and **J. I. Wernham**.

Nearly every State in the Union was represented at the gathering but Illinois led all the rest in numbers.

**Dr. E. C. Dudley** of Chicago was elected president of the American Gynecological Society at its 29th annual meeting held in Boston, Mass., May 24-25-26, 1904. **Dr. Henry T. Byford** of Chicago responded to the address of welcome. **Niagara Falls, N. Y.**, was selected as the place for holding the next annual meeting in May, 1905.

**Dr. E. E. Brittin** late of Pawnee has located at Chatham.

**Dr. Adam Szwajkart**, 658 North Ashland Blvd., Chicago, has been appointed a member of the West Park Board. **Dr. Szwajkart** was born in Poland, but is a graduate of the medical school of the University of Illinois.

**Dr. C. L. Glenn** of Narissa has located in Pawnee.

#### COUNCIL MEETING.

Regular quarterly meeting of the Council held in Chicago, July 7, 1904.

Present all of the Councilors.

The question of appeals from the action of the local societies by **Dr. William L. Rabe**, of Dwight, and **Dr. H. Preston Pratt**, of Chicago came up for consideration.

Both of the above were present in person and represented by counsel. After presentation of the evidence it was ruled in the first instance, that of Rabe, that the matter is wholly within the jurisdiction of the Livingston County Medical Society, and that the Council has no recommendation to offer in relation thereto.

In the second instance it was ruled that the appeal of **H. P. Pratt** be referred back to the Chicago Medical Society with the request that it hear, his, Pratt's appeal when presented.

**Editor Kreider** complains of the practice of essayists in giving their manuscript to other publications before the same had been published in the Illinois State Medical Journal.

Relative to the same the following was offered and carried:

It is the sense of the Council that section two, of chapter eleven of the by-laws be interpreted as follows:

No papers shall be read at the annual meeting of the Society or be published in its transactions except upon the assurance of the writer of the paper that the manuscript

shall not be offered to any other publication until the paper has appeared in the Illinois State Medical Journal.

The resignation of Kreider as editor having, been accepted at a former meeting of the Council, a vote of confidence and satisfaction coupled with a request that Kreider continue as editor was moved, seconded and carried. Kreider accepted the same.

The same committee on the management of the Journal last year was continued. Said committee being Black, Will, and Harris. It was moved and carried that this committee be given discretionary power to use its best judgement in furthering and enhancing the best interests of the Journal during the interim of the Council meetings.

It was moved and carried that from now on the Journal shall only be sent to actual members, subscribers, advertisers, exchanges, and for advertising purposes.

The result of the drawing of terms as Councilors is as follows:

For one year, Newcomb, Ensign, Stealy.

For two years, Black, McNally, (Harris hold-over).

For three years, Will, Fyke, and Smith.

Adjourned to meet in Chicago the first Thursday in October, 1904.

E. W. Weis, Secretary.

#### **What May be Accomplished by the Organized Profession Toward Improving the Ohio State Medical Institutions.**

By A. P. Ohlmacher, M. D., Gallipolis, Superintendent of the Ohio State Hospital for Epileptics.

Whatever may be the cause, the medical profession is indifferent to the State medical institutions. As a body, the physicians of Ohio take little active interest in the several great medical establishments created and supported by the State. As an organization potent for good in the body politic, the confederation which I have the honor of addressing today has not lifted its voice in the effort to advance the administrative or medical interests of the State hospitals of Ohio. This condition is unfortunate, even lamentable; and it should be corrected, especially when it comes to be realized, as sooner or later it unquestionably must, that these institutions, so potent for great good to humanity and to science, look to the medical profession for their best inspirations and ideals.

One at all familiar with the situation cannot overlook the fact that the unsavory reputation

of political interference and indifferent medical work still attaches to our State hospitals, notwithstanding a gradual improvement in recent years. These very features which arouse the distaste said to underlie and explain the profession's apathy can be remedied only by the profession itself. It is the organized medical fraternity which embodies the mechanism essential for relief from these undesirable conditions, providing it no longer shirks its duty and responsibility. So long, however, as the medical profession, by its inactivity or indifference, countenances political intervention in the medical institutions of its State, so long will this regime continue, and so long will the medical and scientific work be hampered or restricted. To counteract this tendency and to improve the situation is plainly an obligation upon a co-operative body of physicians representing a given State. It owes this obligation not to itself alone, but to the great public which receives the benefits of the State institutions, which supports them, and which must look to the medical profession for advice and guidance in this, as in other questions of medical sociology.

There may be those who would challenge the statement that the medical institutions of Ohio are still embarrassed by political restraint. It can, however, readily be verified. Kindly allow me to cite you some confirmatory evidence: The question of party politics enters so prominently that everyone in close touch with institutional affairs looks for a complete reorganization of the State hospitals on the occasion of a change in political parties. Boards of trustees, the supreme governing agents in these hospitals, are appointed by the chief executive of the State and have a limited tenure of office as prescribed by law. To the credit of the more recent State administrations it may be said that these assignments have generally been of a high order, and that changes in the managing boards have rarely been made except for natural causes or for obvious reasons. Still, considerations of party or factional politics have operated as underlying factors in some of these appointments. As for the selection of the medical staff—the choice of the superintendent and the assistant physicians—the question of politics has rarely been brought into prominence. On the other hand, the reputation of political uncertainty and the meagerness of scientific inducements have often deterred the best qualified physicians from seeking the service of the State's hospitals. Outside of the staff of physicians—the executive officers and employees—every medical institution in Ohio comes to feel the influence of partisan or factional politics in their preference, and only the firm stand of a strong superintendent who insists upon merit as the prerequisite for stability of office prevents injury to the service. The vital question of appropriations rests in the hands of two committees from the legislature, and these committees very rarely have members qualified by previous experience or study to pass intelligently upon the claims and needs of the various institutions. Very serious mistakes and grave injustice re-

sult from this system, for the really urgent needs of one institution may be disregarded while the less pressing claims of another may be granted. The present practice of allowing the large finance committees of the legislature to pay a hurried visit to the State institutions in order to determine the justice of the demands for financial aid is especially bad. We have but to look at the work of the recently adjourned 76th General Assembly to realize how completely the moneys for the State hospitals are at the mercy of the ebb and flow of politics. This Assembly has sustained much adverse criticism for the manner in which and purposes for which it expended the State's funds; and added to this it gained the reputation of having awarded the State institutions as a whole relatively smaller appropriations than any of its predecessors in recent years, with the result that several of these State hospitals will be handicapped for the present, if not seriously crippled for the future; especially since the Governor was compelled to select them among the objects of his veto in retrenchment. It is indeed deplorable when even the State's benevolent institutions must suffer through the agency of party, factional or geographic politics, and assuredly the time for action on the part of organizations like ours has arrived.

Enlightened public sentiment is strongly set against political interference in the eleemosynary establishments of the State, and it requires but the active agitation of an organization with its units disseminated throughout the commonwealth to fan this prejudice into activity. As it is today confederated, the Ohio State Medical Association is in a good position to effectively aid the State hospitals in a propaganda looking to the elimination of politics, to the improvement of the service, and toward the fulfillment of those ideals of scientific medicine which all progressive physicians realize to be essential to the best and most fruitful activity of these institutions. That such results may be attained is illustrated by the recent experience in Illinois where the Chicago Medical Society has, since its reorganization, taken a decided step toward dictating the medical-administrative policy of the Health Department, the public general hospitals, and the county institutions for paupers, the insane, and the tuberculous. Following on the heels of this success by a municipal organization, the Illinois State Medical Society is now outlining a program looking to an energetic campaign in behalf of the hospitals of the State at large.

Realizing as I do from actual experience the conditions now surrounding and entering into our State hospitals, well aware of their shortcoming in a scientific direction, but keenly cognizant of their vast possibilities as concern the advancement of medical science and the cause of humanity, I am impelled to advocate with all my power the immediate co-operation of this State Association in their affairs.

## AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

The fourteenth annual meeting of the American Electro-Therapeutic Association will be held at the Inside Inn, St. Louis, Mo., September 13th, 14th, 15th and 16th, 1904. The scientific sessions will be held only in the mornings, leaving the afternoons free in which to visit the attractions of the fair. It is believed that a large proportion of the members of the Association will be present this year, as the World's Fair offers many attractions in itself; and in addition to the convention of the Association, there will also be held in St. Louis, from the 8th to the 17th of September, the annual convention of the American Roentgen Ray Society and the convention of the International Electrical Congress. These events will make St. Louis a point of great interest to us at the time of the convention there.

As the convention is to be held at the Inside Inn, it is very desirable that all the members should have their quarters in this hostelry; hence if you have not already engaged your rooms, it would be wise for you to write and do so at once on the reservation blank contained in the descriptive pamphlet of the Inn which I sent you two months ago.

The following amendments to the Constitution and By-Laws, notice of which was given at the 1903 meeting, will be voted upon at this meeting, namely, sections 9, 10 and 11 of the Constitution to be so amended that they will read as follows:

9. Every applicant for membership, whether a Fellow, Life Fellow, Honorary Fellow, or Associate Fellow, shall be endorsed by two Fellows in good standing, and be presented to the Executive Council through the Secretary, the properly signed application blank to be accompanied by the admission fee of five dollars, which shall also constitute, in the event of election, the annual dues of such applicant for the year during which he is elected. If he is not elected the five dollars shall be returned to him with notice of rejection. The Executive Council shall make due inquiry concerning the professional attainments and standing of the applicant and if satisfied as to his eligibility, shall instruct the Secretary to notify each Fellow that the election to Fellowship of such applicant is recommended, and that unless good and sufficient reasons for rejection are communicated to the Secretary within a stated time (which shall be not less than two weeks), such applicant shall be considered duly and properly elected. A postal card directed to each Fellow at his address last known to the Secretary shall be considered sufficient notification of such impending election.

If no such communication is received within the specified time, the applicant shall be considered as duly elected a Fellow of this Association, and a duly executed certificate of membership forwarded to him forthwith; if such a communication is received, election of the ap-



plicant shall be deferred until the annual meeting following, notice that such applicant will be voted upon being sent to each Fellow at least one month before the date of such meeting. A two-thirds vote in the affirmative of all the Fellows present shall be necessary to elect at such meeting; fifteen Fellows at least being in attendance.

Section 57 of the By-Laws to be omitted entirely, and by-law 58 to be so amended as to read, "Each Fellow shall pay annually in advance to the Secretary the sum of five dollars, which shall constitute his annual dues."

The preliminary program to date, subject to amplification and revision, appears below:

"Some Observations on the Medical Uses of the Constant Current," Daniel Roberts Brower, Chicago, Ill.

"The Therapeutic Application of the Continuous Current," Truman Abel Pease, Norwood, N. Y.

"Exhibition of a New Current Controller and Discussion of the Methods of Therapeutic Control of Street Main Currents," George Betton Massey, of Philadelphia, Pa.

"The Cataphoric Treatment of Cancer," Amedee Granger, of New Orleans, La.

"Clinical Reports of Some Interesting Cases Treated by Electricity," Samuel Fairweather Wilson, of Montreal, Canada.

"Clinical and Experimental Effects of Electrical Currents of High Potential and Frequency," John Holcomb Burch, of Baldwinsville, N. Y.

"Therapeutic Action of High Frequency Currents," Walter Henry White, of Boston, Mass.

"Electro-Therapy of the Psychic and Sympathetic Neurone Centers," Charles H. Hughes, of St. Louis, Mo.

"The Physiotherapy of Neurasthenia," T. Riviere, of Paris, France.

"The Value of the Roentgen Ray in the Diagnosis of Fractures," Mihran Krikor Kassabian, of Philadelphia, Pa.

"Diagnosis of Calculi," Russel Herbert Boggs, of Pittsburg, Pa.

"Further Researches in the Treatment of Tuberculosis," Jefferson Demetrius Gibson, of Denver, Colo.

"A Case of Hyperidrosis of the Axillae Cured by the X-Ray," George H. Stover, of Denver, Colo.

"Violet Light Baths; Their Physiological and Therapeutic Effects," Ernest Albert-Weil, of Paris, France.

"The Use of the Ultra Violet Light in Therapeutics," Albert Eugene Stern, of Indianapolis, Ind.

"Locomotor Ataxia Successfully Treated with Ultra Violet Rays," Joseph Monroe Lieberman, of New York, N. Y.

"Some Aspects of Phototherapy," Charles Rea Dickson, of Toronto, Canada.

"Photo-Therapy in Chronic Diseases," John Harvey Kellogg, of Battle Creek, Mich.

"The Importance of Associating Other Physical Measures with Electricity in Therapeutics," William Benham Snow, of New York, N. Y.

Yours very truly,

Clarence Edward Skinner.

## County and District Societies.

### CLAY COUNTY MEDICAL SOCIETY.

#### Officers.

President, R. L. Falley,.....Bible Grove  
Vice-President, J. C. Weber,.....Clay City  
Secretary, C. E. Duncan,.....Flora  
Treasurer, W. F. Fairchild,.....Flora

Program Committee: Drs. N. W. Bowman, Flora; W. E. Burgett, Louisville and J. V. Dillman, Bible Grove.

The next meeting is to be held at Louisville, on the second Tuesday in September.

### HANCOCK COUNTY MEDICAL SOCIETY.

Regular meetings are held in the Court House at Carthage, the first Monday of each quarter. Membership 30.

#### Officers.

President,.....Downing N. Nice, Bowen  
Secretary,.....R. L. Casburn, Carthage

The Society met in north jury room of court house, July 11, 1904, at 1 P. M. Members present: Drs. Reaburn, Ferris, Runyon, Parr, Loomis, Callahan, Waggoner, Frazie and Casburn. Dr. Wm. Rankin of Basco was present

and elected to membership. Dr. J. C. Taylor of Hamilton petitioned for membership.

Dr. Runyon read a very interesting paper on **purulent conjunctivitis** and reported a case. The paper brought out a very general discussion. Dr. Parr reported a case of **vascular tumor**, which was freely discussed.

The Hospital Committee reported that the work of soliciting funds, to build the hospital, was going on and meeting with encouraging results. Report received and committee continued and ordered to hasten the work.

The question was raised as to whether certain notorious violators of the medical practice laws of the State, practicing in the county, ought not to be prosecuted. No action was taken.

It was also reported that members of the Society had subscribed for what was known as the Lane Treatment of Alcoholism, Morphism, etc., of Knoxville, Tenn., and pledged themselves to keep it secret. Such conduct being in notorious violation of the principles of ethics. It was also claimed that the solicitor who took such subscription showed a long list of names of physicians from all parts of the State and country, who had also subscribed

for such prescription, and made the same pledges as to secrecy. No action was taken, but it was hoped that there was a mistake somewhere.

Society adjourned to meet the first Monday in October.

#### HAMILTON COUNTY MEDICAL SOCIETY.

##### Officers.

President ..... H. E. Hale  
First Vice President ..... I. M. Asbury  
Second Vice President ..... Harry W. Dale  
Secretary and Treasurer ..... C. M. Lyon  
Board of Censors: W. W. Hall, J. J. Hassett and Inman Hall.

The Hamilton County Medical Society met in regular session in the town hall, at 1:30 o'clock, p. m., Tuesday, July 12, 1904. Present: Dr. H. E. Hale, president, Drs. D. F. Whited, L. C. Morgan, F. V. Westfall, I. M. Asbury, J. J. Hassett, H. M. Dale and C. M. Lyon, secretary. It was ordered by the Society that the secretary invite Dr. J. T. McAnally, of Carbondale to attend the next meeting of the Society.

Resolutions on the death of Dr. Wilford F. Hall, were presented by a committee consisting of Drs. I. M. Asbury, J. J. Hassett and Harry W. Dale. The resolutions were adopted and it was ordered that they be published in each of the county papers and that a copy be presented to the family of our deceased brother.

A paper on **Zoster, Its Forms and Treatment** was read by Dr. J. J. Hassett, and discussed by J. J. Hassett and Harry W. Dale.

Dr. D. F. Whited read a paper on **Infantile Convulsions, Etiology and Treatment**, and the paper was discussed by Drs. Asbury, Westfall, Dale and Hassett.

The author being absent a paper on **Tra-choma** by Dr. W. W. Hall, was read by the Secretary, and discussed by Drs. H. E. Hale, J. J. Hassett and Harry W. Dale.

Society adjourned to meet at the court house in McLeansboro, Tuesday, October 11, 1904.

#### EDWARDS COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly. Membership 10.

##### Officers.

President ..... W. E. Buxton, Samsville  
Secretary ..... J. H. Lacey, Albion

The Edwards County Medical Society held its regular July meeting at the office of the Albion Vitrified Brick Company, Albion, July 12, 1904. President W. E. Buxton in the chair. Members present: W. E. Buxton, A. C. Low, A. H. Niemiller, J. L. McCormack, J. S. Williams and J. H. Lacey. Visitors, Dr. Edw. Adams of Kentucky. Dr. J. T. McAnally, Carbondale, counselor for 9th District was also present. Application of Dr. D. W. Bouen of West Salem for membership was favorably reported and same received into full membership.

Dr. S. S. Stahl, a senior at the Marion Sims-Beaumont, St. Louis, read a highly instructive paper on **The Bacteriology of the Alimentary Tract**.

Councilor J. T. McAnally talked entertainingly of the importance of medical organization

and earnestly requested all physicians in the county to become members of the local and State Societies.

At the suggestion of the president the Board of Censors acted as a committee to draft a resolution condemning and discouraging the practice of physicians reporting cases to the local papers for the sole purpose of advertising. Following is the resolution which was unanimously adopted by the Society:

Be it resolved, That it shall be unethical and unprofessional as well as detrimental to the best interests of the members of this Society for any member thereof to publish in any manner or in any paper or periodical other than Medical Journals, his or their connection with any accident, illness, surgical operation or report of births and that the Society request the local editors to withhold the names of physicians connected with the same.

The meeting adjourned to meet the second Tuesday in October.

#### CLARK COUNTY MEDICAL SOCIETY.

Regular meetings are held at Marshall, quarterly. Membership 12.

##### Officers.

President ..... Jos. Hall, Westfield  
Vice President ..... R. H. Bradley, Marshall  
Secretary ..... L. J. Weir, Marshall

The Clark County Medical Society met at Marshall, at 2:30 p. m., in Dr. Haslit's office in regular session.

President Hall being absent, Vice President Bradley presided.

Members present: Drs. Bradley, Ryerson, Smith, J. Weir, H. W. Haslit, Percy P. Haslit, G. W. Prewitt and L. J. Weir.

Visitor, Dr. Burnside.

Dr. Smith's paper on **Summer Diarrhoeas** was a thorough presentation of the subject. The causes of the disease, especially errors in diet. Symptoms, not only the diarrhoea but the condition of the patient and stools. Pathology or rather the lack of anatomical changes except in chronic cases.

Prophylaxis correct diet, suspend the use of milk for one to two days, in many cases giving egg water and treatment or better management. But little medicine is useful.

The subject was discussed by all present for three hours. Many important and profitable points were made.

Among the most important were the following: The doctor should have complete control of the case otherwise the patient's life is jeopardized. People are learning all the time how to feed, bathe and clothe children and are thus lessening diarrhoeal diseases and mortality in early life. Calomel or castor oil to remove infections or undigested material. Bismuth for its sedative and local effect in large doses. Opiates in a few cases only when pain and secretions are quite severe. Colonic flushings in many severe cases. Rectal enemas of normal salt solution in cholera infantum. Plenty of water and in health and prevent too frequent nursing.

Dr. John Weir reported the meeting of the State Society at Bloomington and stated that

one of the benefits derived from attending that as well as any other Society was the enthusiasm acquired.

That warfare on tuberculosis is to be the main work of the Medical profession of the state this year, and that officers were elected who were especially qualified by leading the campaign against this dread disease.

On motion the rules of the Society were suspended and Drs. Gould, Smith and Percy P. Haslit were elected members of the Society by acclamation.

Insanity was selected as the subject for the next meeting. Dr. C. D. Ryerson was selected to write the paper.

Society adjourned.

### CHRISTIAN COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly at Taylorville. Membership 20.

#### Officers.

President.....W. T. Bridges, Stonington  
Vice-President.....Matt Hill, Taylorville  
Secretary and Treasurer...F. E. North, Taylorville  
Directors.....C. L. Carroll and G. L. Armstrong,  
Taylorville; M. W. Staples, Grove City.

The Christian County Medical Society met in regular session in Taylorville, Thursday, July 21. President Bridges in the chair. Sixteen members present.

The following program was given:

President's address to the Christian County Medical Society, W. T. Bridges, Stonington.

The address offered a great many suggestions to the members, asking their individual aid in helping to enroll every eligible practitioner in the county as a member by this avenue, increasing the membership in the State Society.

In speaking of our State Society, it was impressed upon all the necessity of giving the Society our support and respect, in this way only could we find ourselves and the profession respected by the public.

The suggestion of the profession in our county electing two or more reputable physicians as supervisors met with favor, it being pointed out where the profession would receive more just consideration by the Board of Supervisors.

J. N. Nelms, Taylorville, read a paper on **Puerperal Disease**. An abstract is as follows: The paper was limited principally to puerperal eclampsia.

The idea of nephritis acting in all cases as an etiological factor was criticised; he giving as causes uremia, toxæmia, ptomainæmia and increased blood pressure.

Making frequent urinalysis in the pregnant and finding pathological conditions of the urine warned us to be on the alert and better prepared to meet the emergency. No one should attend a case of confinement without being properly equipped; in a given case where we find albumen and casts during the period of gestation, we know better what to expect and are enabled to more quickly interpret an intense cephalalgia or slight delirium.

Any error in diet or more elimination of by products may disturb the eliminative organs to

the extent of causing toxæmia or uremia and the consequent development of delirium, convulsions or coma.

The death of the foetus in utero may raise the maternal blood pressure and cause cerebral congestion with usual train of symptoms, e. g., headache, delirium, convulsions or coma.

In support of the above the following was offered: Called to see Mrs. J. L. S., primipara, full term, age 21. Found her suffering with intense headache, no symptoms of beginning labor. The cerebral disturbance had reached a point bordering on convulsions. The prompt administration of morphine and atropine hypodermatically, followed by arterial sedatives and potassia bromide gave prompt relief. Twenty-four hours later I called and found patient in labor. After a reasonable time I found her attempts unavailing and I resorted to forceps and delivered.

The baby was still born and presented evidences of having been dead for many hours.

The death of the foetus caused the cerebral congestion in the mother, the blood which nourished the foetus in utero being transferred to the mother by its death, was thrown into the arteries of the mother, thus increasing the arterial tension and producing the cerebral congestion.

Three other cases were reported in the paper. One due to error of diet in which the urinalysis was negative so far as any pathological condition was concerned until the acute attack, which came on suddenly and first manifested itself as a case of gastro-enteritis, after eating cucumbers, and raw cabbage and tomatoes.

The third case reported had a convulsion soon as the head reached the perineum. She was promptly delivered, convulsion ceased, and at no time was there any evidence of nephritis.

The fourth case reported occurred in a patient who had an albuminuria and casts after a very difficult labor, instrumental delivery, she recovered.

As treatment for the condition of puerperal eclampsia, no one line of treatment should be followed but the case treated individually according to the "etiological factors."

Dr. Solladay of Owaneco read a paper on **Ileo-Colitis**, the doctor reviewed the bacteriology and pathology of this condition. Special stress was laid upon the hygienic treatment.

The article of diet brought out some good points, the main fact being to keep all food away from the child and at the same time impress upon the mother the necessity of so doing. The older practitioner spoke of our improvised hygienic conditions ameliorating the severity of the condition to what it was in former years.

Dr. C. L. Cassel, Taylorville, read a paper on **Tuberculosis**. Paper dealt principally with the pneumonic infection and general tuberculosis.

The difficulty encountered in the differential diagnosis between typhoid and general tuberculosis was spoken of, concluding that only time could help us in some cases.

Treatment consisted mainly in building up the patients system, by forced feeding, and



abundant fresh air; indorsing the open air treatment.

The streptococcic serum had improved some cases in the second and third stage.

Meeting adjourned.

# VERMILION COUNTY MEDICAL SOCIETY.

Regular meetings are held the second Monday of each month in the city hall, Danville, at 8:30 p. m. Membership 71.

## Officers.

President ..... Jos. Fairhall, Danville  
Vice President ..... F. N. Cloyd, Westville  
Sec'y and Treas. .... C. E. Wilkinson, Danville  
Board of Censors: ... H. F. Becker, T. E. Walton,  
W. A. Cochran.

Committee on Medical Practice Act: E. E. Clark, S. L. Landauer, S. C. Glidden.

The Society held its regular monthly meeting Monday evening, June 13, in the City Council Chamber, President Joseph Fairhall in the chair.

Minutes of the May meetings (regular and special) were read and approved.

The report of the committee on entertainment for the meeting of the Aesculapian Medical Society, which met in this city May 26, 1904, was read and approved and the committee discharged.

The bill for the floral offering for the funeral of Dr. E. A. Johnson, whose death occurred Saturday, June 11, at his parents' home, in Champagne, was ordered to be paid.

The following resolution was read and adopted:

Whereas, It has pleased Almighty God to remove from our midst our esteemed colleague, Dr. E. A. Johnson, after a prolonged and painful illness, which he bore with a truly Christian fortitude; therefore, be it

Resolved, That by his untimely death, the Society has lost a valuable member, that the members of the Vermilion County Medical Association herewith tender his parents and family their profound sympathy and that a copy of these resolutions be sent his parents and put in the minutes of this meeting.

The arranging of the program for the coming year was discussed, after which the president appointed H. W. Morehouse and H. F. Becker as a committee to arrange program, have same printed and each member of the Society be sent a copy by July 15, 1904.

The name of Dr. J. R. Collier, of Catlin, was presented for membership.

The next regular meeting will be held the second Monday evening in September.

The following members were present: W. A. Cochran, H. W. Morehouse, H. F. Becker, Joseph Fairhall, C. Leavitt, J. W. Wilkins, G. L. Williamson, I. E. Huston, R. A. Brown, W. J. Brown, J. W. O'Haver, Solomon Jones, F. N. Cloyd, J. G. Fisher, D. V. Ray, O. W. Michael, R. A. Cloyd, T. E. Walton, F. W. Barton, P. E.

Z. Butz, C. F. Hoffmann, and Charles E. Wilkinson.

Dr. H. F. Becker read a paper on **Puerperal Infection** with report of a case. The essayist presented the subject principally from the preventive and diagnostic point but also mentioned the treatment.

## Abstract.

"Whenever a woman in the puerperium has a pulse of 90 or over and a temperature of 100.5° or more, the obstetrician should be on his guard. He should carefully exclude inflammation of the breasts or any other possible cause of the increased temperature. If he can find nothing in his general examination, he may find on local examination, some ulcerating wounds on either the perineum, vulva, vaginal walls or cervix, which will be covered with a dirty, yellowish secretion. If after a few days the patient shows symptoms of a general intoxication, it is probable that the seat of absorption is in the endometrium.

Bearing in mind the possibility of infection, it is the duty of the obstetrician to prevent it. In my opinion sterilized hands are the most essential and so far as I can investigate the "Fuerbringer Method" is the best. The method is as follows: After proper preparation of the fingernails, scrubbing the hands in hot water, with soap and brush, then five minutes scrubbing with 70 to 80 per cent alcohol and then immediately soaking them in a 1-1000 sublimate solution (instead of the sublimate sol., a 2 per cent lysol sol. may be used). It is worthy of note that alcohol will only destroy micro-organisms when they are moist on account of its diffusibility and great affinity for water. If not moist, the alcohol as soon as it comes in contact with the micro-organisms, forms a coagulated membrane around them thereby preventing any further penetration and the bacteria remain active.

Knowledge of the bacterial invasion in puerperal infection is essential to successful treatment. If only anaerobic bacteria are present, decomposition is going on in utero, causing sapraemic intoxication. If streptococcus pyogenic germs are present alone, or if present with staphylococcus pyogenes aureus or albus it is probable that the streptococcus is the infecting organism, which is the most common but varies enormously in virulence. In pure streptococcus infection there is no offensive odor to the lochia, which may be very scanty or abundant. If anaerobic bacilla are found there may be the bacilla coli communae or certain putrefactive bacteria causing putrid endometritis—but I would like to ask, where is there a general practitioner that has either, faculty, inclination or time to make these bacteriological examinations and investigations. I believe that most of us simply conclude, that when our patient has a temperature with rapid pulse, the lochial discharge being offensive, that there must be some putrefactive changes going on in the uterus and some placental tissue or membrane must remain. If on the other hand the lochia is seemingly normal and our patient has a chill followed

by fever, we conclude that we have a streptococcus infection—providing no other cause can be found to account for the symptoms.

How to prevent infection can be summed up in a very few words, viz: "Be Clean"—surgically clean. This in hospital practice and where the services of a trained nurse can be had, can be carried out; but can the general practitioner always have a trained nurse or send or take his cases to the hospital? Not I. Consequently we must depend on some one who has no knowledge of surgical cleanliness, much less of infection—and you need not be surprised to find that any "old rag" will do in the shape of a padding to be placed under your patient. We as physicians, are inclined to become somewhat lax in regard to such cases because most of them get along nicely. That more cases do not suffer from infection Dame Nature is to be credited, but when infection does occur then the doctor is to blame.

Therefore see that **your hands are clean**, make few examinations—two being regarded as sufficient. One to ascertain if dilatation is taking place and one to ascertain the presentation."

The essayist concluded his paper by referring to the treatment advised and reported a case in which drainage was established through the posterior cul-de-sac with favorable results.

An interesting discussion followed the reading of the paper and the discussion was closed by the essayist.

Dr. H. W. Morehouse presented an interesting paper on **Diseases of the Pancreas** and reported some cases—one of haemorrhagic pancreatitis in which diagnosis was made before death and confirmed by an autopsy.

The paper was interesting to the members on account of the cases reported being somewhat unusual.

Drs. F. N. Cloyd and J. G. Fisher each reported an interesting case.

#### CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held the second Thursday in every second month. Membership 24.

##### Officers.

President ..... Dr. Frank Dunham, Robinson  
Vice President ..... Dr. L. R. Illyes, Heathsville  
Secretary ..... Dr. H. N. Rafferty, Robinson  
Treasurer ..... Dr. C. Barlow, Robinson  
Delegate to State Meeting... Dr. J. W. Kirk, Oblong  
Board of Censors: Dr. G. W. Fuller, Palestine; Dr. W. H. Hoskinson, Trimble; Dr. C. H. Voorheis, Hutsonville.

The Society met in regular session at the office of Dr. A. G. Meserve, Robinson, on Thursday, July 14, 1904.

The president being absent, Vice President Price was in the chair. The following members and visitors were present, viz.: Price, Meserve, Firebaugh, Barlow, Gordon, Dunham, Fuller, Illyes, Barlow of Texas, and H. N. Rafferty.

Dr. R. L. Gordon read a paper on **Sciatica**. This was well received by the Society, as every one present could call to mind his few successes and many failures in the treatment of this very stubborn affection. The author directed his

attention particularly to the treatment and general management, and his suggestions, together with those brought out in the discussion, should be of value in our future contact with these cases.

Dr. Midgett's paper on **Cholelithiasis** was read by Dr. Dunham, owing to the unavoidable absence of the author.

Cholelithiasis is a condition due to the precipitation of the solid elements of the bile, resulting in the formation of calculi or concretions which act as obstructions in the biliary passages.

Two important points with reference to the formation of calculi have been presented by Naunyn. The origin of cholesterin, as well as lime salts, from the mucus membrane of the biliary passages—particularly when inflamed; and the remarkable association of micro-organisms with gall-stones. It is stated that Bristowe first noticed the origin of cholesterin in the gall-bladder itself, but Naunyn's observations showed both the cholesterin and lime were in great part a production of the mucosa of the gall-bladder and of the bile ducts, particularly when in a condition of catarrhal inflammation excited by the presence of microbes.

The lithogenous catarrhal condition greatly modifies the chemical composition of the bile, and favors the deposition about the epithelial debris and bacteria of the insoluble salts of lime, in combination with bilirubin. Welch and others have demonstrated the presence of micro-organisms in the center of gall-stones.

There are other points that have been very clearly brought out, viz.: the demonstration that the gall-bladder is a particularly favorable habitat for micro-organisms, among which may be mentioned the colon bacilli, streptococci, staphylococci, pneumococci, and typhoid bacilli.

An important fact is the length of time they will live in the gall-bladder, the typhoid bacillus having been isolated in pure culture seven years after an attack of typhoid fever. Secondly, gall-stones have been experimentally produced by injecting micro-organisms into the gall-bladder of animals. Thirdly, the association of gall-stones with the specific fevers.

One-half of all cases of gall-stones occur in persons over forty years of age, being rare under twenty-five, although they have been found in infants. Three-fourths of all cases occur in women. Pregnancy has an important influence, Naunyn stating that 90 per cent of women with gall-stones have borne children. All conditions which favor stagnation of bile in the gall-bladder predispose to the formation of stones. Some of these are corset wearing, enteroptosis, nephroptosis, and occupations requiring a leaning forward position, lack of exercise, over indulgence in food, constipation, and depressing mental emotions.

The symptoms produced by gall-stones are: 1. those caused by the passage of the stone through the ducts—biliary or hepatic colic; and, 2. those caused by obstruction in the ducts or intestine: 3. those due to ulceration and

perforation, at any portion of the biliary tract, and the establishment of a fistula.

An attack of biliary colic commences suddenly with severe pain, sometimes preceded by gastric distress, but often without premonitory symptoms. The pain is felt over the region of the gall-bladder, radiating up the right side of the chest to the shoulder, and across the abdomen.

It is paroxysmal in character, intense and agonizing. The patient finds it impossible to keep still, usually losing all control of herself, and throws herself from side to side on the bed or floor. Vomiting occurs from time to time, often giving momentary relief. In severe cases it is sometimes persistent. Perspiration is profuse, circulation depressed, and the extremities cold. Not infrequently there is a marked rise of temperature.

The pain disappears when the stone passes, which may be in a few hours, or it may require days or even weeks. A dilated gall-bladder may often be detected, and there is usually well marked tenderness, on local examination.

A stone may cause symptoms of obstruction by lodging either in the cystic or common duct. In the first case, dilatation of the gall-bladder is likely to ensue, forming a well marked tumor, which may be felt below the margin of the liver, projecting directly downward into the abdomen. This sometimes becomes enormous in size, even simulating an ovarian cyst. If the obstruction is in the common duct, it usually occurs at its mouth: hence there is greater likelihood of infection, and dilatation of the duct. Osler says catarrhal cholangitis with obstruction is marked by intermittent paroxysms of chills, fever, and sweating, simulating ague; persistent jaundice, most intense after the paroxysm, and hepatic pain and tenderness. Perforation may cause fistulous connection between the gall-bladder and hepatic duct, the portal vein, liver, intestine, stomach, or lung.

Perforation into the abdominal cavity is not uncommon, neither is an intestinal obstruction caused by the presence of a stone, both conditions producing symptoms analogous to those resulting from obstruction or perforation from other causes. A closed fistulous tract may be attended by no symptoms, and is impossible of diagnosis.

Gall-stones may be present and produce no symptoms. Biliary colic is seldom dangerous to life, although a perforation may occur, making surgical attention necessary. It may be confused with intercostal neuralgia, pleurisy, intestinal or renal colic, appendicitis, or gastric ulcer, although a careful physical examination usually establishes the diagnosis without difficulty. In most cases, the recurrence of the attacks, association with jaundice, and the discovery of calculi in the stools, leave no doubt as to the character of the disease.

Since biliary colic is prone to occur in obese patients past middle life, it is well to prescribe systematic exercise suited to the strength of the individual, and a regulated diet that excludes saccharine and starchy foods. Phosphate or sulphate of sodium may be used to regulate

the bowels, and the alkaline mineral waters taken freely to flush the excretory tracts. No medicinal treatment offers hope of dissolving the calculi, when they are once formed. Any good results obtained by remedies which aim at this end are doubtless due to facilitating the passage of the stone.

Large doses of olive oil are believed to have a beneficial effect. Sulphuric ether and chloroform have been recommended. Durande prescribed with good results a mixture made up of three parts of ether and two parts of turpentine—twenty drops to a dram given every morning. This is likely to prove irritating to the stomach, but is regarded as especially efficacious in many cases. It stimulates the flow of bile, and many reduce the jaundice. For the relief of an attack of biliary colic, it is necessary to resort to hypodermics of morphine and atropine. Hot applications, or better the full hot bath, may be used, causing muscular relaxation, relieving the pain and spasm, and thereby favoring the passage of the stone.

When the attacks occur with persistent regularity, or there is evidence of obstruction or other complications, surgical intervention should be advised.

In the discussion, the point was made that the term cholelithiasis means biliary calculus, and not necessarily biliary colic; in other words, that a large per cent of those who have one or many calculi in their gall-bladder, never have any attacks of gall-stone colic, and consequently a diagnosis is not usually made.

Dr. H. N. Rafferty presented a case of **Chronic Hydrocephalus** in a child of nine months, with an occipito-frontal of 17¼ inches, and a body-weight of 13½ pounds.

Dr. Rafferty also showed a phosphatic stone removed from the bladder of a woman who had suffered from a severe cystitis for eight years. The stone was easily removed through the urethra, although the first attempt was a failure on account of lack of thorough dilatation.

This being the annual meeting, officers for the ensuing year were elected as above.

#### MERCER COUNTY MEDICAL SOCIETY.

Regular meetings are held at Aledo, quarterly.  
Membership 25.

##### Officers.

President ..... C. W. Carter Aledo  
Vice President ..... H. I. Allen, New Boston  
Secretary and Treasurer . . . V. A. McClanahan, Viola  
Censors: H. H. Sherwood, New Windsor; E. J. Hay, Millersburg; P. T. Bohan, Seaton.

At the meeting held October 13, 1903, the following paper was read:

#### Regarding the Contagiousness of Typhoid Fever and the Vitality of the Typhoid Germ.

F. D. Rathbun, Galesburg: The purpose of this paper is to invite your attention to the following practical points regarding typhoid fever, which are deemed worthy of study and discussion.

1st. The vitality of the typhoid bacillus in the living body, or how long after convalescence the patient is liable to communicate the disease by means of the excreta.



2d. The vitality of the germs outside the living body, and their power to generate in soil and other favorable media.

3d. The proper means of disposing of the excreta so as to prevent the spread of the disease.

The typhoid germ has been shown to remain active in the living body under favorable circumstances for a considerable length of time. They have been so found in post-typhoid abscesses evacuated several years after the occurrence of the fever. They have been found in the urine over one month after apparent recovery from the disease. Cystitis may result from the retention and multiplication of the bacilli in the bladder, the germs remaining active for years. Houston reported a case in which the typhoid germs persisted after a period of three years. Vaughn is inclined to question the accuracy of this observation of Houston. The length of time that the germs can be found in an active state in the evacuations from the bowels after recovery is uncertain. In all probability they are a source of danger to others for three or four weeks at least. The Eberth bacillus has been found in the contents of lung cavities. It is reasonable to believe that evacuation of the contents of such cavities by coughing might be a source of infection for a considerable length of time.

We now come to the vitality of the Eberth bacillus outside the living body and its power to generate in soil and other favorable media. Experience and observation demonstrated long before the discovery of the specific germ of typhoid fever, that certain water supplies and soils when impregnated with the excrement from persons suffering from the disease, did under favorable circumstances form centers of infection, and that many epidemics of typhoid fever originated in this way. Since the discovery of the specific germ many experiments have been made with reference to this point. It has been shown that the presence in soil of organic matter and the process of nitrification greatly favors the multiplication of the germs. This was well shown in the well known experiments of Martin and Robertson. The experiments of Martin were conducted with earths pulverized, placed in Erlenmeyer flasks and sterilized, afterwards adding cultures of typhoid germs. He found that in soils polluted previous to sterilization with organic matter that the micro-organisms were present and showed growth after a lapse of one hundred and five days, while in soils that had contained no organic matter they did not multiply and soon disappeared.

Robertson's experiments approached nearer to the conditions that would obtain were the excreta of a typhoid fever case thrown carelessly on the surface of the ground or buried a short distance beneath it. They were conducted in a grass covered field, the turf was removed and cultures of the Eberth bacillus planted at various depths. The turf and soil previously removed was then carefully replaced. Examination of the infected locality made one hundred and thirty days thereafter showed that in every instance the bacilli had retained their vitality

and had multiplied. In certain spots where the earth was treated with dilute sterile broth the micro organisms were found eleven months after planting in great abundance, while in localities not thus treated with organic matter no growth was shown. Thus demonstrating that in a soil polluted by sewage or other organic matter the bacilli will thrive and continue to grow for a long time. In this experiment Robertson found that the germs did not multiply during the cold season but were not destroyed thereby. The same conditions to a certain extent hold good in regard to the multiplication of the germs in wells and other water supplies, as with soil, the presence of nitrates greatly favoring their growth, it is very doubtful according to Tyson whether they can generate in running streams. When spread in thin layers and exposed to direct sunlight the germs soon loose their vitality. Complete dessication also destroys them. In soil not completely dessicated they retain their vitality a long time and may in this way cause infection by being carried by winds in the form of dust to other localities as cited by Colville. The germs have been found active and able to reproduce themselves in the bodies of persons dead of typhoid fever three months after death.

The proper disposition of the excreta in cases of typhoid fever is the key note to success in the prevention of the spread of the disease.

This should include the urine, which is quite as potent a factor as the alvine evacuations in producing infection. Cremation stands first as the surest method of destroying the germs. This in most instances is not practicable, and some other plan must be devised. The following method is suggested as being economical, easily carried out and effective. During the progress of the disease and for at least four weeks thereafter, the urine and bowel movements should be deposited in a large heavily glazed earthen-ware jar having a cover of the same material, and treated with bichloride of mercury, chloride of lime, or some other reliable germicide; the cover being kept on when not in use in order to avoid infection from flies and other insects. At the expiration of this time the cover should be cemented on and the vessel buried deeply in the clay sub-soil at a distance from wells or other sources of water supply.

#### CHRISTIAN COUNTY MEDICAL SOCIETY.

Regular meetings are held at Taylorville quarterly.

##### Officers.

President ..... C. W. Bridges, Stonington  
Secretary ..... F. E. Morton, Taylorville

#### Uterine Colic Following Vaginal Injections.

Delivered before Christian Co. Medical Society, Taylorville, Ill. Dec. 1903.

Matt A. Reasoner B. S. M. D.

Late House Surgeon Medical Department University of Illinois. Late Ass't Surgeon Mexican Central R. R.

The subject of **Uterine Colic** as a result of vaginal injections is one I have rarely seen or heard discussed. The text books for the most part scarcely mention it. It is in its worst types comparatively rare and only in the most ex-

treme and rarest cases fatal. Yet it is in any case sufficiently painful and annoying that its true nature and cause should be recognized and in cases known to be susceptible, care should be taken to prevent its recurrence.

Case No. 1. Unable to use vaginal douche since summer of 1902, on account of pelvic cramps which at times were very severe, lasting from one to five hours. Obtained a history of a typical uterine colic resulting from a warm plain water post-partum douche following a confinement several years previous. Pains were excruciating, abdomen tense, countenance became pallid, pulse feeble and rapid. Nausea. Medical aid called and in several hours after hypodermic injection and other measures, condition was relieved.

No. 2. Miss B. Nullipara, aged 23. Endometritis and contracted cervix. Used warm diluted carbolic douche. This was followed by acute sharp pains in lower part of abdomen. Nausea. Weakness and extreme prostration. To such a degree that death seemed impending. Temperature lowered and pulse rate elevated. Morphia and atropia hypodermatically, hot applications and recumbent posture. A return to normal after a few hours.

No. 3. Mrs. C. Primipara. For days after birth of child a warm plain water, vaginal douche was given. It was followed by localized pain and cramps in lower part of abdomen and symptoms of most extreme shock. Same treatment as above. Recovery though death seemed approaching.

No. 4. Mrs. H. Multipara, aged 32. A cold vaginal douche had been used three days after confinement. This was followed by a typical uterine colic of most severe degree. Medical aid was called and after a few hours she was declared to be out of danger.

No. 5. Mrs. W. Primipara, aged 23. During the puerperium I found it advisable to use a warm Lysol douche (dram SS to quart). Patient complained of cramps following first injection and still more severely after second. **The third time I used an intrauterine douche through a Leonard dilating uterine tube and patient did not complain.** I draw no positive conclusions from this one case. It may have been only a coincidence.

No. 6. Mrs. X. Injection following parturition. A case different from the foregoing. A localized peritonitis followed the subsidence of the first symptoms. There can be no question but that in this case some foreign material was forced through the tube and into the abdominal cavity.

As I gaze retrospectively over my comparatively few years of practice; One experience often recurs to my mind and I trust and pray that the good Lord in his omnipotent wisdom will not see fit to compel me nor any of those who have trusted their lives to me to undergo the same again. It was a case of uterine colic.

No. 7. Mrs. D. Primipara, aged 35. Two years after curettement for an endometritis. I delivered her of an eight pound child. With the exception of a mild cystitis all went well until the fifth night when I was hurriedly summoned. With the idea of relieving her cystitis the

woman in charge had given her a warm, plain vaginal injection. A few minutes after the injection, patient was taken with a chill and the most extreme pains referred to the lower portion of the abdomen, abdominal walls hard and tense and tender. Pulse 140 wiry, temperature 103°.

I gave morphia 1-4 atropia 1-150. I applied turpentine stupes and gave some small doses of calomel, which patient promptly vomited. Went to my office a couple of blocks distant for Antistreptococcic serum. When I returned her color had changed to an ashen gray, skin cold, profuse perspiration, pulse 170, weak, thready and almost imperceptible. Patient at this time not in such extreme pain, but conscious and believed herself to be dying, in which prognosis I concurred. I used atropia, strychnia, glonoin, hot irons, etc. Elevated foot of bed, gave saline injection. Two of us actually rubbed the skin from off her legs and abdomen, while a third interruptedly used the full strength of a Faradic current which fortunately was at hand. When the heart would seem to be almost fluttering its last, I used rather violent heart massage and with good effect. For six long hours we kept the heart going. Time after time it would falter and patient seemed to be breathing her last and again our exertions were redoubled and we would arouse it and cause it to flutter on, and patient would seem to revive and then again sink away. At 10 o'clock, a. m., color returned, the heart took up its work permanently and the mother was saved for her child and husband and our long fight was not in vain. Except as a result of our manipulations she had little pain. The temperature was 98° and the pulse 90, a little irregular and not very full.

No. 8. I am under obligations for the following history to Dr. P. A. Harris, of Ogden, Ill., in whose words I present it:

"Patient robust, aged 25, mother of two children aged respectively 15 years and four months. The injection was for the purpose of the prevention of conception, self administered, plain, cold water. Was called one-half hour after injection was taken. Found her suffering intense pain in lower abdomen, cold, almost pulseless. She informed me of what had happened, saying this had happened before but not so badly. Gave her hypodermic to relieve pain after which she became quiet and went to sleep. She rested four or five hours. Then became sick at stomach vomited and pain returned. I had just arrived when she vomited and had severe spasm during which bowels moved very copious thin watery stools. She lay in comatose condition about one hour, when she had the second spasm. After this the coma deepened until death, ten hours after injection.

Cause surgical shock, result of acute pain."

Case: I am under obligation to Prof. Wm. H. Harsha, of Chicago, for the following history:

Miss X. Nullipara, unmarried, aged 19. The subject of severe dysmenorrhoea for which medical aid was always required. At last attack patient was affected more severely than



usual. Went into condition of surgical shock and died in a few hours.

I do not class above case with my list because it did not follow an injection. But I consider it an important point in my argument. Proving that in an undoubted case of uterine colic, surgical shock may ensue and in that condition the patient may die.

Through the kindness of Drs. J. D. Colt and G. A. Siler, of Litchfield, Drs. Hammers and F. E. North of Taylorville, Dr. T. J. Whitten of Nokomis and Prof. H. T. Byford and Wm. M. Harsha, of Chicago, and Dr. P. A. Harris of Ogden, Ill., I have compiled a list of fourteen of which the above cases are typical of the various degrees.

As a further point in this argument I would draw attention to the fact that deaths have quickly followed injections into the normal uterine cavity. A case to the point happened some time ago in one of the St. Louis clinics.

Following the injection of a dram of sterile water into the uterine cavity the patient died on the table. In these cases the uterus probably contracted and shut off the return flow.

I would first divide these cases as follows: Four of the fourteen occurred to normal uteri and eleven were post parturient.

I would also divide them with reference to after effects. Two of the fourteen (both post partum) developed a localized peritonitis twelve showed no after effects.

I would further divide them with reference to predisposition toward uterine colic. All of the normal uteri and two of the post parturient had shown such tendency.

As to elevation of temperature, two showed a raise, one immediately and one later. Twelve did not or at least I have obtained no history of such. Six were reported as being subnormal.

As to solution used. Three were carbolic properly diluted, one lysol, four cold water and six plain water. I believe that in a large number of cases the proportionate results from cold solutions would be greater.

With regard to etiology I can draw conclusions which would however be of more value were the number of cases greater.

One commonly accepted idea has been that the flow of the douche has forced some liquid, clot or other material up through the uterus and tubes and into the peritoneal cavity. That would be mechanically possible in the post-parturient cases. But it does not appear reasonable in the four normal uteri and especially in Case 2, with the contracted cervix. If foreign material had been forced into the peritoneal cavity in the eleven post parturient cases sufficient to cause such symptoms, we would have expected a peritonitis to have developed in more than two of these cases.

Further if the etiology were different in normal uteri and post parturient cases why should the signs, symptoms and after results be so near uniform?

In nullipara and normal uteri it has been suggested that cold douches are to blame. I am led to believe that cold solutions will most

likely cause uterine colic. But my cases clearly show that in susceptible patients warm solutions may also cause this condition.

Water flows in the direction of least resistance and the initial force of the flow is speedily overcome; due to the opposing vaginal walls and vaginal outlet. Hold a spray tube in the hand and see the result. While the liquid can in post-parturient cases flow into the uterus, I fail to see why it should need to go in sufficient quantity and with sufficient force to push out into the peritoneal cavity and if it did why should it produce such sudden severe and only temporary symptoms?

As I have said in two cases this did occur but in these cases was it not due to the contractions of the uterus on contained liquid? It is possible in the pregnant uterus to excite contractions by directing a continuous flow against the cervix. Might it not be that these cases reacted quicker to this stimulus and some liquid contained in the uterus acted as a foreign body? To further support this contention I cite again the occurrence in normal uteri, the predisposition which existed in four of the fourteen cases and the fact that in case No. 5, the use of the intrauterine douche with dilated cervix was not attended with colic. Last of all in case No. 9, in which there was no injection used, a true case of uterine colic. Surgical shock followed the extreme pain and ending in death.

Treatment: The condition is one of surgical shock. Relieve pain and treat as such.

I have wondered what might be the effect if any from a uterine dilatation, or from a cocaine solution cautiously applied to the cervix internally or perhaps in apparently desperate cases the use of spinal anaesthesia.

Prophylaxis—In cases known to be susceptible forbid the use of any and all vaginal injection. And while cold water is the more liable to produce uterine colic, warm solutions may cause the same result.

I would recommend that no syringe nozzles be used except such as have the apertures arranged so as to produce a backward flow.

I would most strongly deprecate any procedure which necessitates forcing liquid into the normal uterine cavity.

I will be under obligations to any one for case histories and further information on this subject.

Morrissonville, Ill.

#### ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

##### Officers.

President ..... L. H. A. Nickerson, Quincy  
First Vice Pres ..... John A. Koch, Quincy  
Second Vice Pres ..... J. M. Grimes, Camp Point  
Secretary ..... Geo. E. Rosenthal, Quincy  
Treasurer ..... R. J. Christie, Jr., Quincy  
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.

Delegate State Society..E. B. Montgomery, Quincy

The July meeting was held on the 11th at the chamber of commerce with President Nickerson in the chair. Those present were: Drs. Ashton, Bates, Baker, Burch, Byers, Center, Christie,



Gilliland, Hart, Justice, Koch, Knapp, Knox, Montgomery, Nickerson, Pfeiffer, Reticker, Robbins, Rosenthal, Sigsbee, Williams, W. W., Williams, J. J.

It was decided that the September meeting was to be held in Mendon and was to partake of the nature of an old fashioned basket picnic. Dr. Knapp's lawn to be the picnic grounds and members of the Society and their families are expected to attend.

Dr. E. B. Montgomery, chairman of the committee on legislation, submitted the following report:

"To the Adams County Medical Society:

Your legislative committee, to whom was referred a death certificate given by one J. F. Walker, D. O., and the correspondence between the City and State Boards of Health relative thereto, beg leave to report that from the papers submitted it is evident: First, that J. F. Walker, D. O., is plainly assuming the right to practice medicine. Second, that he is doing so in defiance of the laws of the State of Illinois.

We recommend that the evidence of such infraction of the Medical Practice Act be brought to the notice of the person whose duty it is to prosecute such cases.

While it is hardly a matter for the legislative committee to pass upon, it must be evident to every member of the profession that persons who are attempting to practice medicine in defiance of the laws of the state, entirely aside from any question of their competence to do so, are not persons with whom professional consultations should be held or to whom any professional recognition should be given."

Respectfully submitted,

E. B. Montgomery,  
Joseph Robbins,  
Thos. B. Knox.

In the discussion it was brought out that another death certificate for the case in question was issued by a regular physician so that the statutory enactments, in this particular were complied with and it was not known that J. F. Walker, D. O., used anything more than massage or manipulations in his treatment, hence it was the general opinion that although the findings in regard to illegal practice were true, yet there was not sufficient evidence for a legal action.

In regard to consultations with osteopaths it was almost the unanimous sense of the meeting that such consultations were in violation of the code of ethics, and the sanction of such dogmas as osteopathy, by consultations with practitioners thereof, was wrong. It was not deemed a matter for legislation but rather one for individual decision.

Drs. C. A. Wells and W. S. Wolf of Quincy and Marion F. Reiffert of Poloma were elected to membership.

Dr. C. W. Pfeiffer presented the following paper on **Auto-Intoxication**:

One of the most frequent conditions met with in considering the etiological factors in the production of disease is that of auto-intoxication. During the early period of the germ theory of disease the germs themselves were regarded as

the maleficent agents in the production of disease processes. Later on it was contended by many eminent authorities that it was not the germs themselves but the toxic materials or toxins which they generated that caused the trouble. And within still more recent years the theory that the body without the introduction of any external disease-producing germ or toxic materials can, by a retrograde metamorphosis of its own tissues, produce virulent poisons which may and frequently do lead to serious derangements and even cause death. We may therefor, with Weber, define auto-intoxication as a poisoning of the system by the products of its tissue metamorphosis: which products may be normal but do harm by excessive accumulation, or they may be pathological either not at all or in minute quantities only, present in the healthy body. This is well illustrated in the weariness often following excessive muscular action often assuming the form of distress and if the effort be continued the distress may become so great as to cause complete exhaustion that even death may result. In excessive work of what ever kind it may be, in order to accomplish this work the demand upon the blood for oxygen is increased. There are numerous things besides carbonic acid gas which are swept into the blood as a result of the activities of the body. In other words the product of work in the human body is poison which must be eliminated through the excretory organs.

Fatigue fever as described by Vaughn and others occurred in this manner: Fever as generally considered is an increase of heat production beyond that of heat (production) dissipation, an agent arising from within or without deranging the harmony of the thermotoxic, thermogenetic and thermolytic operators. Once established the fever continues not from excessive production of heat but from the altered relation between heat production and heat dissipation. Fever is not a phenomena of excessive oxidation of the constituents of the body.

Heat production may be subnormal yet the temperature of the body may be very high. The equilibrium between heat production and heat dissipation is maintained by the thermotoxic centers of the brain keeping the bodily temperature at 98.4. Another very important factor in heat regulation are the peripheral endings of the sensory nerves influencing the thermolytic centers. Nerve shock or allied conditions giving rise to disturbance of the thermic balance is often productive of the auto-toxemia underlying soburrol fever which presents about the following clinical picture. It begins with loss of appetite, tongue is large, white and dirty. Clammy mouth; fetid breath; habitual constipation. The patient is languid, feeble, indisposed for work. This condition is often supervised by paroxysms of chills and followed with sweats. Under the influence of overwork, emotion, exposure to cold, etc., arrest of digestion, nausea, vomiting, headache, chills and fever occur. In children vertigo and convulsions often usher in this disease as is also the case with neurotics. In view of these facts as to the

formation of toxic materials by strong muscular activity, I have been lead to believe that many cases of mild poisoning following parturition in which every possible precaution has been taken to avoid external infection, are caused by the long continued uterine action, which, if intense and tonic, in all probability generate toxic materials more rapidly than they can be eliminated, especially if the uterus has been stimulated by the administration of ergot during labor. It is therefor of the utmost importance to keep all the excretory functions of the pregnant and parturient women in first-class working order. Further more experience in a limited number of cases has convinced me that fractional doses of calomel with potassium acetate and spirits of nitrous ether with a little tincture of aconite if the latter is indicated, given for a day or two, will do more toward arousing the excretory organs and poison destroying powers of the system and relieve the threatening puerperal infection more effectively than any other kind of medication. In the preface to Oliver's translation of Bouchard's work he says as follows: "Bouchard in his *Auto-Intoxication*" clearly indicates to us that man is constantly standing on the brink of a precipice; he is continually on the threshold of disease. Every moment of his life he runs the risk of being overpowered by poisons generated within his system. Self poisoning is only prevented by the activity of the excretory organs, chiefly the kidneys and by the watchfulness of the liver, which acts the part of a sentinel to the materials brought to it by the portal veins from the alimentary canal.

The place held by autotoxemia in the production of mental diseases is second only to heredity. Peterson in describing the causes of insanity uses two terms, heredity and strain; heredity, which renders the nervous organization unstable the strain, which causes the unstable nerve centers to collapse. It has long been known that the fluids in the body of the insane undergo modification. Recent investigation has shown that the urine in the insane is much less toxic than in the normal condition; while the lethal action of this fluid is increased in melancholia. Ammoniacal urine gives rise to excitement and convulsions when injected into an animal, while the injection of urine taken from a case of melancholia is followed by a depression of spirits, restlessness and stupor, a proof that auto-intoxication is the cause and not the effect of a mental condition. Bouchard has also shown that urine taken from a healthy person if injected into animals produces toxic symptoms and when used in sufficient quantities will cause death. From a careful study of a large number of experiments conducted on animals he arrives at the conclusion that the urine contains substances which produce the following effects:

- First. A diuretic substance.
- Second. A narcotic substance.
- Third. A convulsive substance.
- Fourth. A sialogenous substance.
- Fifth. A substance producing contraction of pupil.

Sixth. A heat reducing substance.

I believe that every observing physician could bear witness to the fact that many cases of depression of spirits, mental hebetude and general pessimism are due not to some incipient serious organic disease, as the patent medicine manufacturer or the blatant advertising charlatan would have these sufferers believe, but are merely the result of the accumulation of retrograde toxic products produced by the normal activities of their bodies, but which instead of being promptly eliminated, accumulate in the blood and poison the nervous centers, set up disorders of the digestive organs, overtax the liver and lead to almost innumerable functional derangements. It is now well understood that not only are diseases directly connected with the digestive and urinary (tract) organs, caused by auto-intoxication but likewise disorders of distant and special organs are due to the same cause chief among which are amblyopia and that form of optic atrophy which Uthoff placed among the unknown causes.

While not relaxing our care and vigilance to prevent the introduction of external infective materials yet I believe the facts to which I have called attention should serve to broaden our views of the causes of disease and increase our vigilance in preventing them and enlarge our power of combating them when existent.

While such a course should not relax our duty in searching for the specific bacilli and their toxins which cause many diseases, it should at the same time enlarge our mental horizon and impress upon our minds the fact that our whole duty consists not only in identifying the germ and discovering a germicide to destroy it, but the patient should receive our most serious and earnest consideration in our endeavor to secure elimination of the peccant materials by correcting and sustaining the proper function of the excretory organs thereby increasing the resistance of cells and tissues in their battle against their destroyers. The therapeutics of autotoxemia will depend largely upon the type. In cases of irritable weakness a change of environment is desired for the most rapid and permanent recovery. Much may be attained by regulation of diet, use of the mineral waters, regular and moderate exercise and massage as well as hydrotherapy. In this trouble the great need of the system is water and it should be amply supplied for which the ordinary water will suffice if mineral waters for some reason cannot be procured. Large quantities of milk or better still buttermilk will act admirably in a large number of cases. Purgatives require very careful adjustment.

Dr. Pfeiffer's paper was discussed by Drs. Justice, Ashton, W. W. Williams, Christie, Robbins and Gilliland.

Dr. E. B. Montgomery reported a case of **Intestinal Obstruction Following Appendiceal Abscess Nineteen Months Previous, Anastomosis: Recovery.**

Patient was a butcher, age 28; an operation was performed for fulminating appendicitis November 26, 1902, appendicitis resulted in per-



foration and abscess in 36 hours. Patient made a good recovery with the exception of a small ventral hernia.

On June 6, 1904, he was seized with severe intestinal pain, colicky in character, accompanied by vomiting and constipation but with no rise of temperature. On June 9, at noon vomiting became foecal in character and continued until 10 p. m., when a laparotomy was done at Blessing Hospital.

Patient's condition was precarious when he went on the table, pulse rapid and feeble and color cyanotic.

Incision was five inches long, in the median line, the small intestine was found distended with gas and fluid contents, highly congested, bright red in duodenum and of a pale liver color at point of obstruction in the ileum, this viscus was held down and partly obstructed by a fibrous band three inches in length, which was ligated and removed with scissors. Ileum and caecum were also bound down by peritoneal adhesions, which it was found could not be separated. An anastomosis was performed between the ileum, above the point of obstruction and the transverse colon below with a Murphy Button. Abdomen was closed by a continuous cat gut suture for the peritoneum and interrupted silk worm gut for skin and muscle.

Patient was in collapse when taken from table at midnight but under stimulation rallied nicely by the following morning, and made an almost uneventful recovery, being discharged on the 30th.

Dr. Montgomery exhibited the patient who is in excellent condition.

Dr. Christie reported a case of gastro-enterostomy in which he used the McGraw ligature. Patient was on full diet within a month and with no return of gastric symptoms which had indicated the operation.

This was the second gastro-enterostomy performed on this patient, in the first a Murphy Button was used and after its passage the lumen of the anastomosis became so narrowed by cicatricial contraction that the second operation was done.

Dr. Christie reported a case of **Pyo-haemothorax in a Child, Following Pneumonia**. The perforation of a bronchus was followed by the condition of pyo-haemothorax. The pleura was drained by operative procedure and mechanical methods were used to bring the pleurae in contact until adhesions formed. A perfect result was attained by the fifteenth day after operation.

Adjournment.

#### Diarrhoea in Children.

By E. A. Glasgow, M. D., Mulberry Grove.

The term diarrhoea is used to cover all conditions attended by frequent loose evacuations from the bowels. These depend upon an increase in peristalsis and in intestinal secretions. Certain etiological factors are common

to all forms, as age, season, surroundings, constitution, dentition, food and feeding.

The manner of feeding is perhaps the most important factor in the production of diarrhoea. Fatal cases in nursing infants are extremely rare. Artificial feeding in itself does not cause so much trouble if it is properly done. The mistake is often made in overfeeding. Impure or contaminated milk is also an important cause.

Among the different forms of diarrhoea may be mentioned the following: 1. Mechanical. 2. From Drugs. 3. Eliminative. 4. Acute Intestinal Indigestion. 5. Acute Gastro-Enteric Infection.

The latter is the most important of all the various forms and deserves special mention. It is also known as summer diarrhoea, gastro-intestinal catarrh, gastro-enteritis, cholera infantum and mycotic diarrhoea. This is the form which is so prevalent in summer. It occurs each season in large cities in epidemics, and also prevails to a greater or less extent in the country districts. The lesions in the intestines are slight, amounting in most cases to a superficial catarrhal inflammation. The severity of the symptoms are usually due to the absorption of toxic materials, the result of putrefactive changes in the stomach and intestines. Of course if the infection is of sufficient intensity and duration it leads to structural changes in the intestine, especially in the lower ileum and colon.

**Etiology.** Among the causes are: First, those which give rise to acute indigestion, and secondly, general factors as predisposing to all forms, already mentioned. The most striking thing about these cases is their prevalence in hot weather. It generally commences in June and ends in October. July is the month in which it is most generally severe. According to Seibert an average mean temperature of about 60° F. is needed to start the disease. The temperature must remain in this neighborhood for about a week. Some authors contend that this form is caused by a direct action of the heat, but the view which is almost universal now is that the disease is of an infectious origin.

Clinically, Holt divides gastro-enteric infection into two forms: 1. The simple form and 2. True cholera infantum. This classification is perfectly proper I think.

**Simple Gastro-Enteric Infection.** In the mild cases there may be for the first few days no symptoms but the diarrhoeal discharges, or the children may be peevish or fretful. The stools generally become more frequent, are thin, green, yellow or brown and always contain undigested food. After a time the odor becomes offensive and mucus is present. Appetite may be normal, but is usually impaired; tongue coated. With appropriate treatment these cases usually recover in from one to three weeks.

The picture is very different in cases developing suddenly. The attack may begin abruptly in a child previously healthy. Child is restless, cries much and seems in distress. Temperature rises rapidly to 102° or 103°, often to 105°. May lie in a dull stupor with eyes



sunken, weak pulse and general relaxation, or there may be restlessness, even convulsions; great thirst. Usually in from 4 to 6 hours vomiting begins. Diarrhoea soon follows, first foecal stools, then great bursts of flatus, with expulsion of a thin yellow material with an offensive odor. In other cases the stools are gray, green or greenish-yellow, sometimes brown. After two or three days mucus may follow.

**Diagnosis.** The diagnostic points are the sudden onset, severe symptoms, comparatively brief duration and usually favorable termination. Acute gastro-enteric infection cannot always be distinguished from acute indigestion, but as a rule they are characterized by a higher temperature, very offensive stools and by occurring epidemically in the summer.

**Prognosis**—Simple cases of gastro-enteric infection do not often prove fatal, except in infants under three years old.

**Prophylaxis**—This is very important. First the hygienic surroundings should be good, plenty of air and sunlight, cleanliness, proper care of napkins, etc. The second part relates to food and feeding. Maternal nursing should be encouraged by every possible means. No weaning should be done, if it can be avoided, during the summer. If artificial feeding is resorted to the important dangers to be emphasized are over-feeding, too frequent feeding, use of improper foods, impure foods, especially milk. Over-feeding is especially to be avoided. Diminish each meal one-third, making up deficiency with water, all water should be boiled.

**Hygienic treatment**—Fresh air is very important for all summer complaints, children should be kept quiet, should wear light flannel; bathing is useful to allay restlessness and to reduce temperature.

**Dietetic treatment**—In nursing infants the breast must be withheld so long as a disposition to vomit continues and no food given for 12 hours. Albumin water, barley or whey may be given for thirst. If the breast milk is at fault, as in pregnancy, menstruation, nervous disturbances, etc., it may be necessary to stop nursing either temporarily or permanently. In artificially fed children cow's milk must be withheld during the stage of acute symptoms. When it is begun both the casein and fat must be greatly reduced by dilution. For young children milk must be diluted from six to ten times, preferably with a sugar solution or with barley or rice water. During the acute symptoms give rice or barley water, wine whey. The malted foods, albumin water, fresh beef juice, animal broths, etc. Animal foods should not be allowed for several days after stools are normal.

**Medicinal and Mechanical treatment**—It must be borne in mind that we are not treating an inflammation of the stomach or intestine, although this may be the ultimate result. Measures must be directed against the acute indigestion and the putrefaction in the intestinal tract. The first thing to do is to evacuate the stomach and the entire intestinal canal,

Treatment should never be begun with measures to stop the discharges. The initial vomiting may be sufficient to empty the stomach. If not stomach washing may be done. Emetics may be used in older children, but never in infants. To clear the intestine cathartics are the only means available. Calomel and castor oil are superior to all other cathartics. Calomel has a favorable effect upon vomiting and is anti-fermentative. One-fourth of a grain should be given every hour for eight doses, or until characteristic green stools are seen. Castor oil is preferable when the stomach is not disturbed, as it is soothing and causes little griping. Two drams should be given to a child 2 years old and half an ounce to one 4 years old. Irrigation may be resorted to for the colon. It should be done three or four times the first day and once after that. Evacuation, almost complete starvation for 24 hours and careful feeding thereafter are all that are necessary in the majority of cases. Of the other drugs, I like the subnitrate of bismuth best. It rarely causes vomiting and can be given in large doses, at least two drams should be given daily to a child 2 years old. The subgallate is also good. 1/20 to 1/10 gr. calomel may be given every hour. Its best effects are seen when used early. Salicylate of soda, salol and the sulphocarbolates are sometimes useful. Alkalies are of value when there is acid fermentation with eructations of gas. Astringents often do more harm than good. About the only indications for opium are great frequency of movements and severe pain. It is contraindicated until the intestinal tract is entirely emptied. If stimulants are needed, brandy or whisky may be given. We now come to true cholera infantum.

The term should be restricted to cases of genuine choleriform diarrhoea. It bears a striking resemblance to asiatic cholera. It is closely connected with the feeding of impure cow's milk as a rule there is some antecedent intestinal disorder. Usually there are general symptoms, prostration and a steadily rising temperature for a few hours before vomiting and purging begin, or these may be the first to excite alarm, vomiting may precede diarrhoea or both may begin simultaneously. The vomiting is very frequent. The stools are frequent, large and fluid. They are of a pale green, yellow or brownish color at the start, but after a time they are almost entirely serous. Loss of weight is more rapid than in any other pathological condition of childhood and the prostration is great from the first. The temperature ranges from 102 to 108, just before death. The pulse is always rapid, soon becomes weak, often irregular and finally almost imperceptible. Respiration is irregular and frequent and may be stertorous. The abdomen is generally soft and sunken. Symptoms such as these rarely continue for more than one day without a change for better or worse. In the fatal cases there are hyperpyrexia, cold clammy skin, absence of radial pulse, stupor, coma or convulsions and death. In cases going on to recovery vomiting usually ceases first, stools become less frequent, contain more solid

matter and have more color. The pulse improves, temperature falls, and the nervous symptoms get better.

**Diagnosis.** Cholera infantum can be readily recognized if the chief symptoms are kept in mind—constant vomiting, profuse serous stools, great thirst, dry tongue, high temperature and great restlessness, followed by rapidly developing collapse, sunken fontanel, pinched anxious face, cold extremities, weak pulse, dyspnoea, cyanosis, stupor, coma and death. Prognosis, 75 per cent. die.

**Treatment.** This is very unsatisfactory. The indications are: (1) Empty stomach and intestines. (2) Neutralize the effect of the poison upon the heart and nervous system. (3) Supply fluid to make up for the drain. (4) Reduce the temperature. (5) Treat special symptoms. For the first, irrigation; for the second, the hypodermic use of morphine and atropine; for the third, injection of normal salt solution; for the fourth, bathing.

Besides these forms of diarrhoea we name diarrhoea caused by acute and chronic colitis and ilioocolitis (dysentery), and chronic intestinal indigestion.

#### Report of a Case of Acute Lymphatic Leukæmia with *Ascaris Lumbricoides*.

F. M. Aderhold, M. S., M. D., Surgeon to Zeigler Hospital, Zeigler, Ill.

Case No. 1572, St. Mary's Hospital, Chicago. Mr. —, a Pole, born in Austria and a laborer by occupation, 35 years old.

**Family history:** Father is dead, age and cause of death not known. Mother is alive and well, aged 58. One brother is alive and well, age 40. No brothers dead. Two sisters are alive and well, aged 33 and 38. No sisters dead.

**Personal history:** Does not remember any sickness in childhood or adult life until present trouble. His brother and friends confirm this statement. Worker in Austria as a peasant farmer until four months ago when he came to Chicago and began to work as laborer on Railroad track, near Lake Michigan. Served in Austrian army three years, beginning at age of 22. Is married, four children living and well. No children dead. Denies all venereal history.

About one month after arrival suffered some with pain in right leg and ankle. This improved after rubbing it with alcohol. This leg was not weaker than the other and did not trouble him in his work. Has been drinking one to three glasses of beer per day and whiskey occasionally.

**Present illness:** Three weeks before admission patient began to have headache. Three days later began to develop pains in abdomen. These could not be referred to any particular part but extended in general over upper portion. Both headache and pains persisted and patient began to have diarrhoea second day after pains began. This condition continued to become worse and patient quit work in one week from appearance of first symptoms. About this time he vomited a liquid which was

dark in color. He now consulted a physician and obtained medicines. All symptoms continued and three days ago he began to have shortness of breath upon exertion. One day before admission patient was markedly jaundiced.

**Present condition:** Patient looks very anæmic, is slightly jaundiced and skin has a greenish tint. Does not know whether he has lost weight or not. Is fairly well nourished. Eyes react to light and accommodation, teeth are normal, tongue is pale around edges and brownly coated around center, throat, lips and gums are pale. Carotid pulsations are plainly visible in neck. His axillary and inguinal glands are slightly enlarged and palpable. Other glands in body are not palpable.

**Chest:** Has never had pain in chest. Visible and palpable area of apex beat enlarged and diffuse. Cardiac dullness is slightly increased. There is a blowing systolic murmur at apex.

**Abdomen:** A small area of tenderness on palpation over stomach. Liver dullness extends two fingers below costal arch. The spleen is not palpable. There are no other marks or findings about the patient. Temperature 100.4°, pulse 94, respiration 23.

**Urine:** First passed after admission aromatic odor, amber colored, sp. gr. 1012, no sugar, no albumen. Microscopical examination showed a few epithelial cells and bacteria.

**Blood, July 28th, a. m.:** Reds, 373000, whites, 31200, hoem. 9 per cent. Proportion of white to reds, 1 to 12.

**Blood, July 29th, p. m.:** Reds, 447900, whites, 25800, hoem. 9 per cent. Proportion of whites to reds, 1 to 13.

From the time of admission, July 27, 3 p. m., to the time of his death, July 30th, 8:15 a. m., his temperature varied from 98.6° to 100.4° and his pulse from 94 to 136. He had severe pains in his abdomen which at times were accompanied by vomiting or attempts to vomit. The vomitus was greenish in color and contained blood on several occasions.

About noon of July 29th, the patient vomited an ascaris lumbricoides, 9½ in. long. Up to this time no suspicion of such a parasite was entertained.

**Treatment:** The patient was first given liquid diet but when vomiting continued he was placed on rectal feeding. Calcium chloride gr. V per rectum were given every two hours. By this time his blood had been examined and we thought the bleeding in his stomach was caused by the condition of his blood. The post-mortem examination showed that this was not the case. Strych. sulphate was also given in 1-30 gr. doses hypodermatically every four hours. Just before death he was given a pint of normal salt solution under each breast.

It is much to be regretted that permission for only a partial post-mortem examination was all that could be obtained. It showed in the stomach an oval erosion of the mucous lining, about 1 cm. in diameter. This was on the lower portion near a large blood vessel. In the lower 5

or 6 ft. of the ilium were 30 to 40 similar erosions and ulcers, 2-3 to 1 c.m. wide and 2 to 4 c.m. long. The other ascaris lumbricoides was washed out when the intestinal canal was flushed. It was the male and was about 7 in. long. The mesenteric glands were indurated and enlarged. None of the ulcers seemed to be in process of healing.

A differential count of the blood cells in this case was very difficult to make on account of the uncertain staining properties of the blood. Blood which behaves like oil upon glass has uncertain staining properties and this was a case more marked than is ordinarily found. Specimens were prepared with Ehrlich's triacid stain; with eosin and methelyn blue and with haematoxylin and eosin. The last named stain gave by far the most satisfactory slide from which a count could be made. All specimens came from blood taken at one sitting so there was no chance for the blood to change between times of obtaining specimens.

A count of 512 white cells showed as follows:

Mononuclear lymphocytes, 295 or about 57 per cent.

Polymorphonuclear lymphocytes, 190 or about 38 per cent.

Transitional lymphocytes, 5 or about 1 per cent.

Unclassified, 20 or about 3½ per cent.

Normoblasts, 3.

Mast cells, 2.

On account of the increasing knowledge of blood changes being gained by the study of intestinal parasites it was thought proper to report this case. Whether it is a case of acute lymphatic leukaemia with no enlargement of the lymph glands and practically none of the spleen with these parasites as a mere coincidence or whether the changes are all due to absorption of some product of them is difficult to say. The case looks like one of acute lymphatic leukaemia with a grave anaemia superimposed upon it. The presence of the parasites with so many intestinal lesions makes it apparent that they could have been a factor in the cause of the blood changes.

The writer wishes to thank Dr. S. R. Petrovitz of St. Mary's Hospital, Chicago, for permission to report the case and also Dr. F. R. Zeit of Northwestern University Medical School laboratories for suggesting the haematoxylin eosin stain as best for making a differential count.

## Marriages and Deaths.

### MARRIAGES.

Dr. Edw. Peer Ames of Findley and Miss Mary Parnell Normyle of 4534 Forrestville ave., Chicago, July 13, 1904.

Dr. John Y. Bennett and Miss Bertha Crumbaugh, both of Leroy, June 26.

Dr. Edw. W. Cannady of East St. Louis and Miss Ida Rose of Columbia, June 15.

Dr. Geo. H. Dempey of Grafton and Miss Hattie J. Richardson of Maumee, June 23.

Dr. Spencer S. Fuller and Miss Marguerite L. Smith of Riverside, June 29.

Dr. Clarence W. Hopkins and Miss Mary Emma Kinzie both of Chicago, July 16, 1904.

Dr. Thos. H. Leonard of Chicago and Miss Caroline M. Gehlbach of Lincoln, June 21.

Dr. James W. McDonald and Miss Bertie Grace Hardie both of Aurora, June 17, 1904. Dr. McDonald is an active practitioner of Aurora and Miss Hardie, daughter of a Chicago physician, had been head nurse at the Aurora City Hospital. The marriage occurred at Milwaukee in June but had been kept secret until recently.

Dr. James McManus of Cairo and Miss Alice Cleary of Memphis, Tenn., June 15.

Dr. H. Edward Saner and Miss Nellie Bogle both of Chicago, July 27.

Dr. S. L. Stevens and Miss Vida E. Uppendahl, both of Dalton City, May 16.

Dr. Lewis C. Messmer of Pontiac and Miss Martha K. Everett of Danville, June 22.

Dr. Ernest W. Potthoff of Chicago and Miss Nellie G. Slocum of Oak Park, June 25.

Dr. Otto Rohrlach and Miss Florence Neumann, both of Chicago, June 8.

Dr. Kirk Shawgo of Piper City and Miss Myra Wilcox of Quincy, June 15.

Dr. Paul Wakefield and Miss Olive Lindsay, both of Springfield, June 14, 1904. Miss Lindsay is a daughter of Dr. V. T. Lindsay, one of the oldest practitioners of Springfield and Dr. Wakefield has entered into a partnership with Dr. Lindsay.

Dr. Clifton M. Waugh of Toluca and Miss Mamie McMaster of Mt. Ayr, Iowa, July 22.

Dr. Sherman E. Wright of Chicago and Miss Katherine Best of Minneapolis, June 29.

### DEATHS.

Dr. J. T. Keene, of Walshville died July 14, aged 50.

Dr. Lucius S. Ingmem of Oak Park died June 3, aged 66.

Dr. Joseph Haven of Chicago who has been acting as Consul at St. Kitts, British West Indies, for the past four years, died June 10.

Dr. A. E. Swanson, formerly of Chicago, died at Albuquerque, New Mexico, July 15, 1904. He was buried at Burlington, Iowa.

Dr. Ferdinand Hoffman, of 179 W. Division street, Chicago, a licentiate (1897) of the State Board of Health died July 10, 1904.

Dr. Milton R. Maxson of 1132 Washington Blvd., Chicago, July 26. He was buried in New York.

Dr. Clifford F. Odell, of Moline, June 15, aged 23.



# *The Illinois Medical Journal.*

*Special Section Containing Official Reports of the Chicago (Cook County) Medical Society and its Branches.*

## **OFFICERS:**

J. B. MURPHY, 100 State Street.....	President
FRANK X. WALLS, 4307 Ellis Avenue.....	Secretary
A. E. HALSTEAD, 2937 Indiana Avenue.....	Treasurer
W. A. EVANS, 103 State Street .....	Chairman Medicolegal Committee
WM. HARSHA, 103 State Street .....	Chairman Membership Committee

AUGUST, 1904.

The annual meeting of the Chicago Medical Society was held in the Schiller Hall, Wednesday evening, June 15, 1904, at 8 o'clock, with Dr. R. B. Preble in the chair.

Reports were presented from the Branch Societies, and without exception, their reports testified that the year had been a very profitable one.

The Secretary presented a brief report from the Council enumerating the members on the Council and the number of meetings that each member attended. The proceedings of the Council having been published each month in the Bulletin, the members were familiar with the deliberations of this body.

Dr. W. A. Evans presented the following report from the Medicolegal Committee:

### **Report of Medicolegal Committee.**

The Medicolegal Committee begs leave to report as follows:

The year has been very satisfactory from their standpoint. Of the cases brought to our attention four were in the nature of complaints against members of the Society for unprofessional conduct. The Constitution provides that the first office of this Committee should be conciliatory. In one case the physician very promptly complied with the views of the objector and severed his connection with the objectionable institution. In the second instance the letter from a member of the Committee was replied to by a very sharp communication. After a few days the member sent in his resignation, and the Society accepted it. In the third instance the matter is still in the hands of the Committee, and the outlook is that it will be amicably settled within this week. In the fourth instance the basis of the charge lay in the strained family relations of two members of the Society. The Committee did not see fit to interfere.

The Society has already changed the Constitution so as to create a new Committee, called the Committee on Ethical Relations, to whom such questions as the above will be referred in the future. For this our Committee is very grateful.

Continuing our report of last year relative to the Christian Hospital. The case was brought to the attention of the Federal Grand Jury dur-

ing the fall, with the result that Probert was indicted. A few days later he pleaded guilty, was fined \$500 and costs, and promised not only to desist, but to leave this section of the country. Nothing more was heard of the Christian Hospital until April of this year, when they again sent out advertising bearing the name of a member of the Chicago Medical Society. It is true that a seeming effort had been made to erase this name, but the effort had not been made in good faith. This effort was again brought to the attention of the authorities, and it is hoped that we have heard the last of this matter.

Twenty medicolegal cases have been brought to the attention of two members of the Medicolegal Committee during the past year. When this report is published it will contain the full number of cases. Dr. Moyer is away from town and we have not been able to include his cases.

A synopsis of the twenty cases is as follows:

1. Suit for malpractice. Suit had been entered before it was brought to our attention. Declaration had been filed and demurrer entered. It is now awaiting its term on the calendar.

2. Threatened suit for malpractice matter brought to our attention promptly. We replied to letter to Dr. —. The lawyer for the plaintiff and the doctor called on the Committee and the case was fully discussed. The lawyer has never pressed the matter since. No suit has been entered and it is hoped that it has been finally disposed of.

3. Suit for malpractice. Suit was entered, declaration and demurrer filed before it came to our attention. We have had several conversations with the doctors, and have made provision for medical care of the case at the proper time.

4. Threatened suit for damages. The lawyer's letter was answered by the Society. A statement was had from the physician who attended the case. The matter appears to be dropped, as up to the present time no suit has been filed.

5. Threatened suit for damages. Facts ascertained and advice given. Nothing has been

heard of threatened suit for about nine months now.

6. A case that had been previously tried and heavy damages awarded. A new trial was had. We have been counseling with the doctor, and will do what we can to aid him in this trial. We confidently hope we will be able to report favorably on this case next year.

7. A suit for malpractice. This suit antedated our Committee's existence by several years. We counseled with the defendant during his trial and Drs. Bacon and Moyer testified for him. The verdict was for the defense.

8. Suit for damages threatened. Advised with doctor. To all appearances case has been dropped.

9. Suit for malpractice. Advised with doctor. Consulted with witnesses. Declaration has been demurred to by Society's lawyers. In the meantime doctor has secured judgment for his bill. The case awaits trial.

10. Threatened suit for malpractice. Society is investigating facts. No effort has been made to carry out threat of one month ago.

11. Threatened suit for malpractice. Society's reply to lawyer was made nearly a year ago. Since then nothing has been heard from this case.

12. This case is awaiting trial.

13. Case of damage suit. Letter from one lawyer was answered by Society. He abandoned case. Another lawyer then took it up. He went on with case, filed a declaration. The Society filed a demurrer. It has fully investigated the facts and has them on its record for later use.

14. In this case the committee was consulted by the defendant. It gave advice and the matter has not proceeded further.

15. This was scarcely within the scope of the committee's functions, being principally a personal quarrel between a member and a druggist. The committee did not accomplish much.

16. This was a suit for damages originating before our time. It is awaiting call. We will render such assistance as we can.

17. This was a threatened suit for damages. Apparently it has been dropped.

18. This is a threatened suit for damages. It has been very completely investigated by the committee. Nothing has been heard from the threats for nearly a year, and it is hoped that the matter has been dropped.

19. Patient treated with X-Ray during summer. Threatened suit for shattered health. Our attorney advised suit for bill. One member visited present physician of plaintiff, who knew nothing of suit, but promised to discourage it. Dr. R. consulted another attorney and concluded not to sue for bill.

Later malpractice suit was begun, but no declaration filed. December 5 patient died. Later suit dismissed on account of failure of plaintiff's attorney to file declaration.

20. Patient treated in 1902 for abscess of breast. Dismissed doctor after one breast healed. Doctor sued and obtained judgment for bill. Patient threatened suit for malpractice through lawyer. Our attorney answered letter and advised to find doctor who subsequently

threatened plaintiff. I asked secretary West Division, Dr. Pritzker, for help. After considerable investigation he reported failure to find party. Nothing further done in case.

In addition to the above work the Medico-Legal Committee has been gathering together all of the literature that it could that would help it in its work. They have such legal textbooks as have been written on this subject, and in addition they have started scrap books, in which they have placed several hundred clippings of cases having medicolegal bearings. Our firm of attorneys, Messrs. Pam, Calhoun and Glennon, dissolved partnership during the past year. It was decided to give the business to Mr. Dacey of that firm. Later Mr. Dacey became ill, and on account of his poor health was compelled to leave the city, whereupon the Committee employed the firm of Calhoun, Lyford & Sheehan. This is one of the ablest firms at the Chicago bar, and we feel that the Society is to be congratulated on securing the services of these capable gentlemen.

The \$1.00 a year dues is providing ample for the work of the Committee up to the present time. In fact, the Medicolegal Committee now has a fund of \$1,235 in the bank drawing 3 per cent interest. We hope to so manage the finances of the Committee so that in a few years it will have a material fund, and possibly they will be able to render more financial assistance than they do at the present time. We are even considering the policy of paying judgments at the proper time.

The Constitution provides that the Committee shall investigate the charges that are brought against a member and render them assistance in case the charge is ill-founded or the amount of recompense that is asked is thought to be excessive. In every case we have made the best effort possible to acquaint ourselves with all the facts before we have taken any action. This will continue to be the policy of the Committee; and the facts having been obtained and the Committee having decided to act, they have usually found it possible to reply to the lawyer who instituted the suit. We have found that it is just at this point that our services have been most useful. The result has usually been that the lawyer has not cared to risk the contingency of winning.

We are very anxious to hear of cases of threatened suit at the time when the first suit comes to hand. At this stage oftentimes we can save the member from further trouble. If, on the other hand, he waits until the case is well developed he can not be spared some expense and some trouble, and the usefulness of the Committee will be very much limited.

We believe we render more efficient aid to the members of the Society than can certain other agencies that are very much more expensive to the member. It is possible for us to do this by reason of the fact that the principal that constitutes the warp of our construction is co-operation—and this co-operation constitutes an asset that is beyond even the largest money price. Finally, we believe that there is no factor that is drawing the members of the Chicago

Medical Society so closely together, developing fraternalism and a broader feeling among the members than the existence and work of the Medicolegal Committee.

Very respectfully submitted,  
W. A. Evans,  
C. S. Bacon.

Dr. F. R. Green reported as follows in behalf of the Organization Committee:

#### Report of Organization Committee.

As chairman of the Organization Committee of the Chicago Medical Society, I beg to submit herewith the following report:

The Organization Committee, consisting of one member from each of the eleven districts of the county, began its work at the beginning of the fall work of the Society. The plan of work adopted was that of subdivision of territory, and the appointment of district subcommittees for the work of personally interviewing each regular physician, resident in the district, who was not a member of the Society and was a desirable candidate. For the purpose of obtaining as accurate a list of practitioners as possible, copies of the State Board of Health Reports were furnished each member of the committee, as well as mailing lists of the Society Bulletin, forming a roster of the membership of the Society. From this data the names of the non-members in each district could be obtained, and by subdividing these among a subcommittee of suitable size, the canvassing of the entire county could be quickly and thoroughly done. This work has been carried on during the winter, with various degrees of completeness in the different districts. From all available data, as lists of non-members, reports of members of the committee, etc., the following conditions exist at present in the various districts:

#### District No. 1, North Side.—Dr. Mortimer Frank.

This district is in a fairly complete state of organization. The district is subdivided and each subdistrict is in charge of a local subcommitteeman. The local Society has held regular meetings, and the attendance is increasing. There are in this district 163 men whose names are given in the Board of Health Reports who are outside the organization. As I shall show later on, however, these figures are capable of about one-third reduction.

#### District No. 2, North Shore.—Dr. G. E. Baxter.

The district is divided and local committeemen are at work. There are in this district 70 regular men outside the organization.

#### District No. 3, Evanston.—Dr. W. E. Ballenger.

Organization in this district is practically complete. There are at present only 7 desirable non-members practicing in the territory. The district organization committee is in existence and is working energetically.

#### District No. 4, Northwest.—Dr. L. J. Pritzker.

This district contains 135 regular practitioners who are non-members. The district has been subdivided, but no reports have been received from the subcommitteemen.

#### District No. 5, West Side.—Dr. J. A. Robison.

This district has been subdivided and the local committee is at work. The medical population here is large, and there are at present 363 regular non-members in the district.

#### District No. 6, Aux Plaines.

This district includes Oak Park, Maywood, etc. No report has been received from this territory since last fall, but it is very well organized. Under Dr. W. R. Livingstone, the former secretary of the Aux Plaines Society, the work was practically completed. There are at present few men in this district who are not members of both the general and the local Societies.

#### District No. 7, Lawndale.

Little work has been done in this territory, but the medical population is not large. The directory shows only 40 non-members in this district.

#### District No. 8, Stock Yards.—Dr. R. J. Tivnen.

This district is well organized for work, though the organization is not complete as yet. The territory is subdivided and the men are being brought in. There are 113 non-members in this district.

#### District No. 9, Southwestern.—Dr. F. R. Green.

This district has a strong and active Society, which was in existence before the present plan of organization was inaugurated. The district is divided among ten subcommitteemen, many of whom have practically completed the work in their districts. Out of a regular medical population of 131 there are still 21 men who are not members of the general Society.

#### District No. 10, South Side.—Dr. Wm. Cuthbertson.

This district, large in extent and having the largest medical population of any of the subdivisions of the county, has still a large amount of work to be done. No report of subdivision has been made. There are at present 420 non-members in this district.

#### District No. 11, South Chicago.—Dr. C. F. Swan.

The medical population of this district is limited. The local Society, composed of members of the Chicago Medical Society, has 21 members. There are 41 non-members in the district.

Summarizing the various districts, the reports show the following figures:

	Non-members.
District No. 1 .....	163
District No. 2 .....	70
District No. 3 .....	7
District No. 4 .....	135
District No. 5 .....	363
District No. 6 .....	...
District No. 7 .....	40
District No. 8 .....	113
District No. 9 .....	21
District No. 10 .....	420
District No. 11 .....	41

Total for County .....1,373

Less 33 per cent reduction for errors, removals, deaths, men not in active practice, men



not desirable, etc., which experience has shown is a fair estimate for these various factors, leaves a net total of 816 regular practitioners resident in the county who are eligible for membership, and are still outside of all Society lines. The present machinery for organization, if completed in each district and vigorously used, should bring all the non-members who are desirable into the county organization during the next year.

1. Get out general practitioners.
2. Put young men to work on organization.

Respectfully submitted,

Chas. F. Swan,  
Wm. Cuthbertson,  
John A. Robison,  
M. Frank,  
G. E. Baxter,  
W. E. Ballenger,  
L. J. Pritzker,  
R. J. Tiven,  
F. R. Green, Chairman.

Dr. D. J. Doherty presented the report from the Board of Trustees as follows:

#### Report of Trustees.

June 15, 1904.

In compliance with Chapter 4 of the By-Laws, your Board of Trustees presents its report for the fiscal year, beginning June 15, 1903, and ending June 15, 1904.

#### I. Financial.

Cash on hand June 15, 1903:

Current fund .....	\$2,889.92
Building fund .....	6,350.43
	<hr/>
	\$9,240.15

#### Receipts.

Initiation fees .....	\$1,108.00
Annual dues .....	5,824.00
Interest .....	46.64
Subrent of hall .....	135.00
	<hr/>
	\$7,113.64

#### Expenses.

Assessment to State Medical Society	\$1,352.50
Operating expenses .....	3,676.15
Card index direct'y Chicago physicians	246.31
Typewriting machine and desk .....	148.30
Flowers for funerals of ex-Presidents.	52.00
Expenses of Medico-Legal Committee..	30.38
	<hr/>
	\$5,505.64

#### Operating Expenses.

President's office .....	\$157.15
Treasurer's office .....	237.84
Secretary's office .....	140.43
Honoraria for secretary and treasurer	500.00
Reporting proceedings .....	240.00
Branch societies .....	292.25
Rent .....	994.00
Printing and mailing Bulletin .....	513.95
Bookkeeper and stenographer .....	350.00
Commissions and custodian fees .....	137.65
Telephone .....	62.80
Sundries .....	50.08
	<hr/>
	\$3,676.15

Or about 52 per cent of receipts.

#### Assets.—Money.

Cash in building fund .....	\$8,612.50
Cash in medico-legal fund .....	1,235.00
Cash in current fund .....	2,351.49
Deposit in postoffice .....	50.00
	<hr/>
Total cash .....	\$12,248.99
Bills receivable (unpaid dues) .....	521.00

#### Assets.—Chattels.

10 microscopes, 1 stereopticon projection apparatus, typewriting machine, furniture and carpets, card index directory, etc.

#### Liabilities.

None.

The trustees believe that economy can be practiced during the coming year in the following items:

1. More stringent economy should be enforced in the executive offices.

2. The payment of commissions for collecting will be avoided if members will live up to the simple business principle of promptly paying their dues.

3. The expense of reporting the proceedings of the Society should be borne by the State Medical Journal.

4. Finally and most important, the state assessment should be reduced to \$1.00 per caput. Our delegates to the recent state convention were not able to accomplish this reduction, but the subject should be constantly agitated and unremittingly pursued to a successful issue.

#### II. General.

The question of a suitable meeting place for the Society has occupied much of our thought and time. All recognize the drawback of our present hall and the fact that the building ordinances are not fully complied with, but it is almost impossible to find a satisfactory one for a rental within our income. After much investigation we have taken a lease of Booth Hall, on the third floor of the Northwestern Building, for \$820 per annum. This hall seats about 200 and we have a smaller hall for the affiliated societies. We have the further privilege of the grand hall for gala meetings.

The use of these new quarters makes it necessary for us to dispose of the furniture which we so lavishly acquired some six or eight years ago. We hope to be able to unload it on our new landlord on satisfactory terms.

During the year your trustees held ten regular and three special meetings. They feel that they have conscientiously tried to safeguard your interests. They rejoice to be able to congratulate you on the flourishing condition of the Society and on the healthy professional spirit among its members. They feel warranted in saying that with a few more years of such work as you have done in the past two years, the Society will include in its membership all desirable physicians in Cook county; will exercise the influence in public and medical matters which its numbers and character deserve, and

will have acquired a suitable and permanent home for its abiding place.

Respectfully submitted,

Frank S. Johnson,  
Wm. L. Baum,  
David J. Doherty,

Trustees.

Dr. Frank X. Walls reported as Secretary of the Society:

**Report of Secretary.**

June 15, 1904.

The Chicago Medical Society has completed a highly prosperous year. The scientific value of the contributions and the attendance at the meetings, together with the general interest that has been displayed by the members of the Society, have not been exceeded during any preceding year.

The Constitution of the Society that was adopted during the latter part of the preceding year has been well tested during the current year, and has been found of greatest value, particularly in that there has been a more careful and at the same time more expeditious consideration of the business of the Society.

Due in great part to the activity of the Committee on Organization, the membership of the Society has increased to more than 1,500, and the returns each member obtains for his annual dues of \$5.00 are so great that so soon as the advantages of membership in the Society are pointed out, every reputable practitioner in Cook county will be enrolled on our roster. The opportunity for a post graduate course of instruction that is open to all members in the general and in the affiliated societies, the social attractions in attending the Branch Societies, the proceedings of the county and state societies, the benefits of the medical defense fund, as well as the general advantage that must accrue from a completely organized profession, are some of the features that make membership in the Society so desirable.

During the current year there have been held two special meetings, seven joint meetings and twenty-three regular meetings—in all thirty-two meetings. The total attendance has been 5,560, an average attendance of 173. There have been elected four non-resident and 220 resident members, a total of 224. The number of members who resigned during the year has been 26, 51 have been suspended for non-payment of dues, and 8 have died. The membership at present consists of 99 non-resident members, 108 life, honorary and emeritus members, and 1,305 resident members, a total membership of the Cook County Medical Society at the present time is 1,512.

Dr. R. B. Preble delivered the presidential address, and the tellers announced the result of the election as follows: Dr. J. B. Murphy was elected President for the coming year, Frank X. Walls, Secretary, and the following members were elected as Councilors to serve for three years: Drs. R. B. Preble, M. L. Harris, A. D. Bevan, James H. Stowell and I. N. Danforth.

Dr. J. B. Murphy was then conducted to the

chair and thanked the members of the Society for his election.

At a meeting of the Society held May 25th, the following paper was read:

**The Radical Cure for Hernia.**

By Dr. Alex. Hugh Ferguson, Prof. Clinical Surgery at the College of Physicians and Surgeons Illinois University.

In aiming at a cure for hernia we should try to imitate nature as closely as possible. It is in this that the beauty of the science of surgery lies. The artistic part of it consists in so applying our handy work as to restore nature. The aim for the typical operation for the radical cure of hernia is to restore the different structures in the inguinal region to as near a natural position as possible.

In order to do that we must not raise the cord out of its bed. We have no anatomical reason for doing so; no physiological reason will support it, and there is no practical reason in surgery that admits it. Consequently, the cord should never be raised out of its bed; even though the result should be equally as good as by leaving it in its position. I take it for granted that you all know that it is wrong for any young person to be wearing a truss if she or he can at all be operated upon. Taking that into consideration our operations are now being done much earlier than they were years ago, so that the typical operation for the radical cure for hernia is applicable to a larger number of cases than any other kind. The neglected cases of hernia are a disgrace to the medical profession.

They should never be neglected and come to operation after wearing a truss for years. That should be a thing of the past.

In my operation I begin the skin incision, in an adult, about an inch and a half below the anterior superior spine. I find it necessary to expose that point beneath the aponeurosis of the external oblique to get at the deficient origin of the internal oblique, which usually, is at about that point. I prefer to make the incision slightly semi-lunar and terminate over the conjoint tendon by making a flap and turning it down, all the structures beneath are exposed freely, and there is less danger of infection being carried into the wound from the edge of the skin, as we are likely to do with a small straight incision. It is an advantage to use the curved incision although it is not absolutely necessary.

This exposes the external oblique which is split up commencing at the external ring, the inter-columnar fibres being cut, until we expose the lower border of the internal oblique. Then we reflect these flaps and see the inguinal canal. The sac is opened at the internal ring, high up. If omentum or bowels are in the sac it is well to throw the patient into the Trendelenburg position, for then the contents of the hernial sac may be easily pushed out of the way with a piece of gauze. Adherent omentum is dealt with in the usual way. If not adherent, I do not remove it because that adds gravity to the operation. The neck of the sac is separated up well for about an inch or an inch and a half and the sac is pulled out a little. A favorite way of

tying off the sac is to split it and put a puckering stitch in the inside. If the opening is very large, instead of ligating the sac it may be sutured. It will be seen that the stump recedes; if it does not do so readily, push it back with the finger. We then have a depression at the root of the cord and a slackened condition of the transversalis fascia on both sides of the cord. This slack must be taken up. Usually I take it up when I am sewing the border of the internal oblique to Poupart's ligament either with interrupted or continuous suture. For purposes of demonstration I frequently suture like structures to like separately.

The next step in the operation is to define the conjoined tendon, cremaster muscle and also what is lower border of the internal oblique. My way is to pass the finger beneath the conjoined tendon, and follow it, using, if necessary, the knife to liberate its fibres into the muscular structure of the internal oblique and then to Poupart's ligament. All the muscular tissue you find below the thick border belongs to the cremaster, and all above belongs to the internal oblique. In that way I can differentiate a more extensive deficiency in the origin of the internal oblique than some believe exists. The cremaster muscle is not removed.

The next step is the suturing of the internal oblique muscle to the inner aspect of Poupart's ligament. That is very simple and can be done by continuous or interrupted suture or by autoplasmic suture recommended by Dr. MacArthur. The external oblique is sutured over that and the skin coaptation completes the operation.

I would like to point out the function of the internal oblique muscle in this region. The average length of Poupart's ligament is four and three-eighths inches. In the male the internal oblique muscle arises from a little more than one-half of Poupart's ligament; in the female from two-thirds; which is one of the reasons why an oblique inguinal hernia is more frequent in males than in females. The function of this muscle is to cover over the weakened area in the abdominal wall caused by the descent of the testicle through the transversalis fascia. It is the one active structure in this region that can contract to protect the internal ring during increased intra-abdominal pressure, because it is the only muscular structure there. If that muscle is perforated or the border pulled up as in the Bassini operation the muscle no longer protects the ring which is the reason, in my opinion, why the 6.4 per cent returns in the Bassini take place at the outer angle of the wound. If the internal oblique is sutured down to Poupart's ligament no such weak place is left, but the muscle will contract and cover the ring. By removing the sac and taking up the slack in the transversalis fascia, suturing the border of the internal oblique to Poupart's ligament you have imitated nature as perfectly as possible and the more intra-abdominal pressure you have after that, after restoring the valve-like position of this muscle at the internal ring, the tighter the valve will close, and the hernia cannot recur.

We find, however, that the structures are not always normal. The ligament of Sir Astley Cooper immediately below the internal ring gives away with long continued pressure and the deep epigastric vessels are then found low down and the opening of the ring very large. The border of the internal oblique and the conjoined tendon are often obliterated and Poupart's ligament may be thinned out like tissue paper. Then you cannot perform a typical operation, because there is a too great destruction of tissue, but must resort to a plastic procedure. Here the method of Halstead, bringing down the sheath of the rectus muscle, or that of Bloodgood, may be selected. And, when the deficiency is extensive, I have resorted to the utilization of the sartorius muscle, to strengthen this region. But these expedencies are atypical operations and not called for in the vast majority of cases.

I find the method devised by Fowler useful at times; especially in connection with and the non-congenital hernias, descent of the testes where we wish to furnish a shorter route to the vessels and the vas deferens. Split through the transversalis fascia behind the cord; tie the deep epigastric vessels in two places, cut between them and drop the cord completely inward and backward behind the transversalis fascia down to the pubic bone. Then allowing the cord proper room at the pubic bone, sew up the transversalis fascia and continue the suture until the old internal ring is obliterated. This gives a little shorter route for the vessels and the vas deferens and you get a little farther descent of the testis as well as an excellent cure of the hernia. I have utilized this method many times.

I have met with one peculiar congenital defect in this region in a semi-idiotic overgrown boy in whom the internal oblique muscle ran in the reverse direction. It had a fibrous attachment the entire length of Poupart's ligament, and the fibres of the muscle ran upwards and inward, instead of inward and downward. The hernia was simply alongside the rectus muscle. I closed it in the reverse way. The border of the internal oblique muscle was sutured to the border of the rectus muscle and it made an artistic piece of work.

With regard to the direct form of hernia it of course passes through the inguinal region within and below the deep epigastric vessels, and carries before it the conjoined tendon, or slips beneath its border, and is situated above the pubic bone. Let me say that usually there is no conjoined tendon that can be differentiated. It is thinned out and you cannot perform a typical operation. It must be a plastic procedure and I prefer to split the border of the rectus muscle and sew it down to Poupart's ligament as recommended by Bloodgood. But this is not at all applicable to the cure of oblique inguinal hernia.

**Results.** In the six and a half years I have been performing my typic or anatomic operation there has been no return to my knowledge and no deaths (one death from old age, (74), cystitis, enlarged prostate, diseased kidneys and hernia



strangulated). Counting the cases of other surgeons with my own we can safely say that we know of no returns in over two thousand (2000) cases.

The following is some of the recent literature on hernia:

#### Radical Cure of Inguinal Hernia.

**T. H. Wells** (*Lancet*, Feb. 2, 1901.) describes Symonds operation for radical cure. It consists of (1) a two and a half incision in the linea semilunaris through the skin, fat, superficial and deep fascia, ending over the external ring; (2) deepen the upper one and a half inches through the abdominal muscles, transversalis fascia, and subperitoneal fat. After having arrested the hemorrhage, open the peritoneal cavity; (3) explore sac with finger and replace intestine; (4) insert forceps along the palmar surface of finger, seize the apex of the sac, invert it, and bring it out into the upper wound. (5) Twist the sac itself a few times to obliterate its cavity, and stitch it to the peritoneum; (6) stitch up the external ring; (7) close the wound by apposing all the structures layer by layer. The following advantages are claimed for the operation: First, it is expeditious. Second, the neck of the sac is obliterated high up. Third, the inverted sac aids in forming a firm scar. Fourth, the sac and contents can be explored quickly, and, if necessary, the sac opened below with safety and expedition. Fifth, the incision allows any method of closing the inguinal canal and external ring desired by the operator.

#### Recurrence of Inguinal Hernia.

**B. M. Ricketts** (*American Med.* May 4, 1901) states that the average percentage of recurrence in inguinal hernia for 34 operators will be 5.58 per cent. He bases this estimate on 6,027 cases reported by 34 operators. The preferred operations for the radical cure of hernia are—the Marcy-Bassini, Macewen's, Andrews', Halsted's, Ferguson's, Phelps', and Bloodgood's. He finds that 95 per cent of herniotomies are performed according to the Marcy-Bassini method, or its modification and 3 per cent by all other methods in which absorbable or buried sutures are employed, and in 2 per cent wire is used. The wire has been used in about 1000 operations. Additional causes of failure in operations for inguinal hernia are—(1) deficient origin (attachment) of the internal oblique; (2) pressure on the abdominal walls by the truss (where one has been worn); (3) the length of time that the hernia has existed, especially in the aged.

In making a radical operation do not divide fibres, blood-vessels or nerves. By preserving the vitality and innervation of the tissue, the repair is facilitated and hastened. Cut out all the fat.

#### Radical Cure of Inguinal and Femoral Hernia.

**W. B. Coley** (*Annals of Surgery*, July, 1901) reports 845 cases operated according to the author's modification of the Bassini method, which consists of the introduction of a single suture of chromicized kangaroo tendon (in place of silk) above the cord, bringing the internal oblique in apposition with Poupart's ligament, thus making the cord come out between the two

upper sutures. Before the advent of rubber gloves, 96 per cent of cases healed by primary union. Since then, in 200 cases, only one suppurated, and that was a streptococcus infection from the skin of the patient. In uncomplicated cases the time of operation was from ten to twenty minutes. In 776 cases there were only six relapses. In the entire series of 845 cases there were only two deaths, one due to ether pneumonia, the other to intestinal obstruction, probably a volvulus.

Of the inguinal hernias, ten were well from eight to nine years after operation, thirteen from seven to eight years, twenty-five from six to seven, twenty-eight from five to six, fifty-four from four to five, eighty-nine from three to four, 104 from two to three and 172 from one to two years after operation.

#### Radical Operation of Hernias in Children.

**Maass** (*Deutsche Mediz Wochenschrift*, Mar. 7, 1901) says that the essential requirement in the radical operation of infantile inguinal hernia is careful, conservative isolation of the sac from the spermatic cord. The sac should be opened only in cases of strangulated or adherent hernias. He uses medium-sized silk, which is removed on the sixth day and the wound dressed with iodoform-collodion. By not opening the sac the risk of peritoneal infection is removed.

#### Radical Cure of Umbilical Hernia.

**W. J. Mayo** (*Annals of Surgery*, August, 1901) describes his operation, as follows: 1. Transverse elliptical incisions are made around the umbilicus and hernia, extending down to the base of the hernial protrusion. 2. Clean the surfaces of the aponeurotic structures an inch and a half in all directions from the neck of the sac. 3. Open the sac in a circular manner at the neck; if intestine is present, reduce it after separating the adhesions. Ligate the omentum and remove it with the entire sac of the hernia. 4. Grasp the margins of the ring with forceps and approximate. Whichever way the overlapping is more easy of accomplishment, suggests the direction of the closure. 5. For this approximation an incision is made through the aponeurotic and peritoneal structures of the ring extending an inch or more transversely to each side and the peritoneum is separated from the under side of the upper flaps thus formed. 6. Beginning from one to one and a half inches above the margin of the upper flap, three or four silver wire mattress sutures are introduced the loop firmly grasping the upper margin of the lower flap. Sufficient traction is made on these sutures to enable peritoneal approximation with running suture of catgut. The mattress suture is then drawn into position, sliding the entire lower flap into the pocket previously formed between the aponeurosis and the peritoneum above. 7. The free margin of the upper flap is fixed by catgut sutures to the surface of the aponeurosis below, and the superficial incision closed in the usual manner. The lateral approximation is carried out by sliding one side under the other in the same manner. (A number of operators have independently worked out this same idea, and all report favorable results.)

**J. H. Blake** (Medical Record, May 25, 1901), writing on the same subject says, that umbilical hernias may be cured radically by uniting the borders of the recti by the methods now employed for closing median celiotomy wounds. If there is separation of the recti, the method of operation is left to the choice of the operator. The methods are: 1. Lineal approximation of the margins of the fascia, or fascia and muscle. 2. Interlacing of fasciculi of the inner portions of the recti after splitting their sheaths. 3. Involuting the abdominal wall in the middle line by a method resembling the Czerny-Lenibert method of intestinal suture. 4. Flap operation. After the removal of the sac the hiatus in the abdominal wall is closed by reflecting flaps from the sheaths of the recti muscles and peritoneum (Mayo). 5. Lapping the abdominal wall; the author's method consists of the division of the linea alba in the median line above and below the sac for the necessary distance, with or without excision of the ring and a portion of the linea alba. The entire wall on one side is then lapped over the other and sutured there, so that the ventral surface of one side is in contact with the dorsal surface of the other. Advantages—doubling of the abdominal wall at the hernial site; broad surface of union; breaking of the lines of suture; broad surface of union; obliteration of the separation of the recti; and reduction in size of the abdomen.

#### Radical Cure of Hernia.

**H. Toussaint** (Arch. Prov. de Chir. 1902) reports a series of 60 cases of radical cure of hernia, in one of which a gonorrhoeal phlegmon of the vas deferens was provoked by the operation. The gonorrhoea dated back eight years.

#### New Method for the Radical Cure of Hernia.

**J. Poulet** (Lyon Medical, Nov. 24, 1901) describes a new method which does not require rest in bed. The essential features are: 1. The peritoneal cavity is not opened; 2. There is no dissection of the sac, only a single cut of the bistoury is necessary for incising the skin. The rest is done with the fingers, a tubular needle and a large metallic thread. The latter serves as a subcutaneous truss which is inserted once for all. It does not cause the patient any inconvenience. He has operated 400 times by this method with but few recurrences.

An incision two or two and a half inches long is made over the hernial orifice. The neck of the sac is isolated with the fingers and grasped with a long forceps to prevent its descent. A fine tubular needle is passed through the neck five or six times below the forceps, the metallic suture is passed through the needle, not including the vas deferens or the vessels and nerves of the cord. This assures a satisfactory separation of the contents and the empty sac. In the second stage the two ends of the suture are made to traverse the whole abdominal wall, except the skin, from within out to about 15 m.m. from the upper border of the external ring. To do this the left index finger is introduced deeply into the inguinal canal, and the needle passed between it and the abdominal wall, which is perforated from with-

in, thus implanting the two ends of the suture about an inch apart. The third step is to close the canal by means of the two ends of the same suture. The finger still remains in the canal its pulp under the deep surface of the abdominal wall to guide the curved needle which perforates it from within out or from without in. This needle brings each suture successively through the two fibro muscular borders of the opening to be closed, each border is traversed three or four times according to the size of the opening. Care must be taken not to tighten the suture at the bottom until the last insertion has been made below the ring in the fibroperiosteal tissue near the pubic spine, the finger should remain in the canal until the last passage of the needle so as to ascertain how much tissue will be included in the metal loop. Bring the two ends together without pulling on the suture nor trying to bring the pillars in contact, which will cause the suture to cut through. The two ends are twisted together and a perforated shot placed on the ends so that the tissues will not be lacerated. The skin is sutured with wire.

Poulet operates without assistance. Time of operation, about fifteen minutes. He uses a steel wire, 3-10 m.m. in diameter, 39 inches weighs 1 gram; seven or eight inches are needed for each case. The same method is used for all hernias. The first dressing is made six days later when the skin has united and the cutaneous suture may be removed, as a rule.

#### Results Following Radical Cure of Inguinal Hernia.

**O'Connor** considers this phase in the Lancet of May 31, 1902. He studied 350 operations for the radical cure of inguinal hernia, 140 of which were performed by Halsted's, 120 by Kocher's, and 90 by Bassini's and other methods. He has abandoned the Halsted method because of too frequent orchitis with subsequent atrophy incident to the removal of veins, he thinks. He deems transplantation of the cord questionable surgery. He does not favor buried unabsorbable sutures, especially silk. The keystone, he says, to any radical cure is the approximation of the conjoined tendon to the lower part of Poupart's ligament or Gimbernat's ligament. Kocher's method has given him as good results as the others; if recurrence takes place the patients are no worse off.

An improved operation is described as follows: A 4-inch incision is made over the inguinal canal, the sac is isolated, opened, and its interior inspected and palpated well into the abdomen. Next, an assistant draws the sac forcibly downwards, and the operator, while retaining his left index finger within the sac near to the inguinal ring in order to prevent intestine or omentum getting caught, transfixes and ligates with catgut and cuts away the distal portion. Before complete separation takes place, a pressure forceps is applied to its proximal end in order that a final inspection may be made before it is allowed to fly back. The conjoined tendon and Gimbernat's ligament are isolated and with the left index finger in the canal to act as a guide and protector of important relations, four strong fishing gut sut-



ures are inserted by a curved hernia needle about half an inch apart, from within outward, through Gimbernat's ligament and the external oblique, the ends being retained outside the aponeurosis. The free ends are threaded in rotation on a hernia needle with an opposite curve, and are carried from within outwards well into and through the substance of the conjoined tendon, those ends being similarly retained outside the sheath of the tendon. A straight aneurism needle is passed through the suture hole in the tendon, passed across and emerges through the corresponding suture hole in the external oblique. The end of this portion of the suture is attached and drawn across and out through the aperture of entry of the needle; thus, the two ends emerge from the same hole in the sheath of the tendon and form a circular submuscular suture. When the four are thus applied, the assistant draws the cord downwards and the sutures are tied with sufficient force to draw the tendon backwards in front of the vas to Gimbernat's ligament, care being taken not to compress the vessels of the cord. The ends are snipped off and the knots retreat into the substance of the conjoined tendon and are sealed over by a catgut suture through each aperture. The skin wound is united with a continuous blanket suture.

#### Radical Cure of Inguinal Hernia in Infants.

H. J. Stiles (British Med. Journal, Sept. 7, 1901) prefers the Mitchell Banks operation, the essential step of which is the removal of the patent funicular process, its neck being ligated at the level of the internal ring. 1. Exposure of the cord and its coverings and the pillars of the ring. 2. Isolation, ligature and excision of the funicular process. 3. Closure of the ring. 4. Suture of the wound. Infants as young as two months stand the operation remarkably well. A child that walks should be kept off its feet for three weeks. Nursing infants can be carried about with safety.

W. E. Coley (Annals of Surgery, June, 1903) reports his results in 1075 operations for the radical cure of inguinal and femoral hernias. For femoral hernia he employed the Bassini operation in 16 cases, and the purse-string suture in 50 cases. In the last group no relapses have occurred. He performed 181 operations on females for inguinal hernia with no relapse and no mortality. He does not transplant the round ligament but simply closes the canal over it. In 67 operations for femoral hernia there was no mortality but one relapse due to delayed union. 46 cases were well from one to ten years, and 34 from two to ten years after operation. Of 937 cases of inguinal hernia, the cord was transplanted according to the Bassini method with kangaroo tendon for the buried sutures in 917 cases, with ten relapses. In a series of 1,003 cases, the results were as follows: 647 cases were well from six months to 11 years; 460 were well from two to 11 years. He concludes that patients well one year after operation will remain well, in all probability; and that after two years they may be considered permanently cured. The percentage of relapses after the Bassini operation is slightly

more than one. There were six relapses in twenty cases of inguinal hernia in which the cord was not transplanted.

As to the technic of the operation, Coley says that he always places a single suture in the internal oblique muscle above the point at which the cord passes through. It aids in preventing relapses. The wound is dressed with 10 per cent iodoform gauze and a spica bandage. In children under fourteen, he uses a plaster spica. The patient remains in bed two weeks, but wears the bandage for four weeks, after which no support is worn. He advocates strongly the use of kangaroo tendon as a suture material.

The mortality in these 1,003 cases was only two deaths, less than 1-5 of one per cent. He has performed over 500 operations without a single death. In the Vienna clinic there were three deaths in 804 cases. At the Johns Hopkins Hospital, one death in 459 cases; at Carle's clinic, in Rome, two deaths in 1400 operations, and one of these was from pneumonia.

Frank Martin (Phila. Med. Jour., Nov. 22, 1902) has operated on 116 cases and recommends the radical cure even in old patients. These can be operated either by local anesthesia or by subarachnoid anesthesia. He has used the latter in four cases, one a confirmed alcoholic aged 68, showing marked cardiovascular changes, chronic bronchitis and nephritis. The hernia was of twenty years standing. There was no relapse after 18 months. Cocain was also used in a number of patients advanced in years.

Willy Meyer (Annals of Surgery, Nov., 1902) advocates the use of silver filigree for the closure of large hernial openings in cases that cannot be treated satisfactorily by one of the usual methods of operating. The net is made in various sizes and shapes to fit the opening. That used for inguinal hernias is an acute-angled triangle with the base turned toward the median line. A small opening in the base of the triangle is provided for the passage of the spermatic cord. It rests upon the internal oblique above and is sutured to Poupart's ligament below. The author used the method three times with satisfaction. The patients were fat, and the local conditions gave little promise of a cure by the ordinary methods. One patient died of some intercurrent trouble; the other two have gone for eight and eighteen months without a relapse. The net has not caused any inconvenience.

G. Gross (Arch. Prov. de Chir., May-June, 1903) says that when determining the question of radical cure for hernia, two conditions may confront the surgeon. The bowel is either free in a well-formed sac, or it is complicated by adhesions. In some cases we have to deal merely with accidental adhesions of an inflammatory nature in the sac, and while their separation may be tedious and difficult, it can usually be accomplished. In other cases the nature of the adhesions is entirely different. The loop of large bowel is not completely covered by peritoneum, hence the sac is incomplete and the hernial protrusion adheres closely by its extra-peritoneal surface to the neighbor-



ing cellular tissue. This special feature has been known for a long time and cases presenting it have been called hernias by sliding as distinguished from those by displacement. The former are relatively serious on account of the difficulty of reduction as well as performing a radical cure. This class of hernias is rare. The etiology is uncertain. The symptoms are indefinite. They are not reduced easily. They are either irreducible or only partly reducible.

The operation for radical cure of hernias presents special difficulties, both immediate and remote, on account of the location of the gut outside of the sac and of the vascular adhesions, which seldom permit of easy reposition of the intestine. Freeing these adhesions is an unusually delicate procedure. This should be done by stripping up; laceration of the enclosed vessels will lead to consecutive gangrene of the intestinal wall. It is best to detach the adhesions from the scrotum and not from the bowel. If adhesions cannot be freed, the bowel should be reduced by gentle pressure, or if there is nothing in the sac, ligate or suture and then resect. Colopexy is indicated when reduction is difficult or impossible.

Tansini (Lancet, May 24, 1902) emphasizes the importance of aseptic precautions in the operation for the radical cure of hernia. Success is frequently endangered by the occurrence of slight suppuration. He believes very thin gold wire to be the ideal suture material. He uses thick wire for the deep sutures; much thinner wire for the aponeurosis, and ties off the sac with the thin wire. The ends of the deep sutures are seized with dissecting forceps and turned into the thickness of the internal oblique muscle. The ends of the superficial sutures are left. The patients remain in bed for a week or ten days, and there is only one dressing for the purpose of removing the skin sutures, which may be of either silk or gold wire. Torsion of the blood-vessels is preferred to ligating. He has also devised a number of specially constructed instruments so that it is not necessary to touch the wound at any time, thus minimizing the danger of infection. The time of operation is ten minutes.

#### Results After Bassini Method.

Matanowitsch (Beitr. z. klin. Chir. XXXIV, 1902) reports 120 operations done according to the Bassini method, 4 by Czerny's method and 2 by Kocher's. There was no recurrence in 9 cases after six years; in 14 after five years; in 19 after four years; in 26 after three years, and in 38 after two years. Three true relapses occurred, a percentage of 2.8. He cites the following table of relapses occurring in the practice of various operators. Bassini, 593 cases with 28 relapses; Rotter, 66 cases with one relapse; Coley, 959 cases with 9 relapses; Carle, 601 cases with 36 relapses; Czerny's clinic, 117 cases with three relapses; a total of 2032 cases with 74 relapses (3.6 per cent) after the Bassini operation.

After the Kocher operation: Lebensohn, 111 cases with four relapses; Hirschkopf, 125 cases with one relapse; Trzebizky, 53 cases with two

relapses; Carle 239 cases with 12 relapses; a total of 528 cases with 19 relapses (3.8 per cent).

S. Goldner (Archiv. f. klin. Chir. No. 1, 1902) reports 800 cases operated on by the Bassini method. In 466 cases examined from two to six and a half years after the operation, 35 relapses were found (7.5 per cent), including slight protrusions in the upper angle of the cicatrix and those in which a crural hernia appeared after the radical operation for inguinal hernia. Excluding these cases the percentage of relapses is only 4.9 per cent (23 cases). He concludes that it is less important to prevent funnel formation of the peritoneal stump, than to avoid the formation of a defect in the cicatrix into which the peritoneum may slip. It is not the transplantation of the cord, but its perfect isolation that is of importance. He cites several cases in which the cord was not transplanted and no relapse occurred. Of the 434 cases in which no relapse occurred, 418 were non-incarcerated herniae, twelve incarcerated, and four operated on for a relapse. Of 58 cases of infantile herniae only one relapsed.

The author points out that the radical operation for inguinal hernia may favor the development of a crural hernia, and refers to a modification of Bassini's suture in the radical operation for inguinal hernia in the female, the purpose of which is to close simultaneously the inguinal and crural openings. The internal oblique and transversalis muscles are sutured to Poupart's ligament and the periosteum of the horizontal ramus of the pubes. In 23 cases operated on after this method only one relapsed.

Three deaths occurred in the series of 800 cases; one during narcosis; one from pulmonary embolism eleven days after the operation, and the other from embolism associated with varicosities in the subcutaneous connective tissue of the right thigh with the formation of thrombi in the varices.

#### New Method for the Cure of Femoral Hernia.

J. H. Nicoll (British Med. Jour., Nov. 8, 1902) describes this method, the distinguishing features being: Using the sac to form a buttress on the abdominal aspect of the ring, similar to the procedure described by MacEwen in inguinal hernia. Closing of the femoral ring by fixing the anterior boundary of the canal, Poupart's ligament, to the posterior, the ramus of the os pubes, by drilling through the latter. The sac is emptied of its contents, bisected longitudinally from fundus to neck; an opening is made in one half near the neck of the sac which permits of interlocking of the halves by putting one half through the opening of the other. The whole sac is then reduced through the femoral ring into the extra-peritoneal space, thus forming a buttress at the orifice of the canal.

The femoral ring is closed as follows: A bone-deep incision is carried from the femoral vein along the pubic ramus to the origin of the pubic spine, dividing the pubic portion of the fascia lata, the origin of the pectineus and the periosteum. The length of the incision varies from one to one and a half inches. The periosteum is detached to a limited extent and re-

tracted. Two drill holes, one-half inch apart, are made near the upper edge of the bone. A loop of stout catgut, or other absorbable material, is passed through one of the openings, an ordinary surgical probe provided with an eye being used for this purpose. The loop of the ligature is then divided. One end is threaded in a large surgical needle and passed as a mattress suture through Poupart's ligament. The other end is passed through the ligament higher up, avoiding the deep epigastric artery and the spermatic cord. In very large herniae the loops may be made to diverge in the ligament so as to gather in the margins of the opening. By means of the probe both ends are drawn through the second drill hole in the bone. The ends of each loop are tied tightly and separately over the front of the bone, thus bringing Poupart's ligament down to the posterior superior surface of the bone and fixing it firmly in contact with the surface and absolutely closing the femoral ring as far as desired. The detached margins of the pectineus and the pubic portion of the fascia lata are united by interrupted cat gut sutures to the anchored Poupart's ligament to ensure closure of the ring.

#### Radical Cure of Sliding Hernia.

Savariaud (Rev. de Chir.) returns the sac without resection. It is important to separate the sac thoroughly and to make proper reduction. The dissection is best accomplished by means of a sterilized gauze pad.

#### New Suture for Radical Cure of Hernia.

L. L. MacArthur (J. A. M. A., Nov. 2, 1901) uses a suture consisting of a strip of the tendinous portion of the external oblique muscle. A bunch of the white fibres which enter into the formation of the internal pillar of the ring are split off from the edge of the internal flap of the external oblique, quite up to their insertion of the muscle belly where they are cut loose from the muscle but left attached to the spine of the pubes. This strip should vary in width from one eighth to one quarter of an inch, according to the development of the tendinous fibres. In case a Bassini is done the same strip is taken from the outer flap, the lower end of which terminates in the fibres of the external pillar of the ring. These strips are used as a suture material for a running stitch.

The author advises using a strand of No. 3 silk, one end being tied tightly to the free end of the tendon suture. The first stitch is so applied as to give the desired lumen to the new external abdominal ring; using the one terminating in the internal pillar for the first suture; the remaining one for the superficial layer and buried sutures.

The advantages of the method are: 1. Obtaining a living suture. 2. Lessening the chance of failure through avoidance of the introduction of dead tissue or foreign tissue. 3. Incorporation in the cicatrix of organized white fibrous tissue. 4. Applicability of the same procedure to other situations.

#### Radical Cure of Hernia.

L. Champonniere, at the last French Congress of Surgery gave statistics of 1030 cases of operation for the radical cure of hernia. The three essential steps in the operation are: the reduction of the sac; the removal of the accessible omentum; reparation of the inguinal canal by overlapping the thin muscular and fascial planes. In this series seven deaths occurred (0.68 per cent); three due to pulmonary congestion; two to strangulation by an old band; one to tetanus and one to hemorrhage. There were 39 recurrences; 32 inguinal and 4 femoral, and three umbilical herniae. Of 196 cases of inguinal herniae in the female only one recurred. He attributes a large number of the reported recurrences to bad technique or too hasty performance of the operation.

#### Radical Cure of Umbilical Hernia.

Condamin (Arch. Prov. de Chir., 1892) opens the abdominal wall at the periphery of the hernia and continues the incision until the peritoneal cavity is reached. Then the sac, superfluous skin and umbilicus are removed in one portion. Omphalectomy and closure of the wound in separate layers complete the operation.

#### Radical Treatment of Umbilical Hernia.

E. Piccoli (Centralbl. f. Chir., Jan., 1900) describes his method as follows: A median incision, 10 to 12 c.m. long is made extending equally above and below the mouth of the hernial sac. The incision is deepened to the aponeurosis of the recti. Isolation of the hernial sac, especially in the region of the neck; reduction of the contents of the sac. The sac is cut at its base and the external portion resected. The partition thus created is closed by continuous sutures of fine silk. Then, with the finger, the peritoneal surface is isolated from the anterior abdominal wall, and in the latter, under the guidance of the finger, a vertical incision, upward and downward about 3 c.m., is made with scissors, changing the shape of the hernial orifice to an ellipsoid. From three to five stout silk threads are drawn through one of the borders of the opening, the threads piercing the entire thickness of the wall 2 or 3 m.m. from the border. They are united by surgical knots, the ends remaining uncut. Beginning at the central knot, one of the threads is brought underneath the opposite border and made to pierce it in its entire thickness about 3 c.m. from the free border. The same is done with the second knot. Then the two threads are drawn rather tight and tied together. This procedure is repeated with the remaining knots, and, finally, the subcutaneous cellular tissue and skin are sutured separately.

#### Radical Cure of Ventral Hernia.

M. M. Johnson (J. A. M. A., Dec. 22, 1900) makes an elliptical incision a little within the border of the opening in the abdomen. The skin and superficial fascia is dissected back, exposing the sheath of the rectus muscle. On the outer side a similar dissection is made an inch or more from the external oblique. The edges of the opening are trimmed and a No. 25 silver wire suture is inserted at the angle of the



opening and passed through the peritoneum, rectus muscle and skin one inch from the edge. Similar sutures are inserted at intervals of one inch throughout the length of the incision. The subcutaneous tissues are then united by a continuous kangaroo tendon suture. The deep sutures are taken up one by one and the ends of the wire wound around a pencil of ivory on either side, and drawn sufficiently tight to relieve the tension on the kangaroo tendon stitches.

#### Radical Cure of Inguinal Hernia.

A. M. Phelps (J. A. M. A., Dec. 22, 1900) cuts off the sac and retracts it from the operation as he would from any other abdominal operation; stitching up the peritoneum and transversalis fascia with a continuous suture of silver wire. Over the transversalis fascia and peritoneum a mattress of fine silver wire is placed and the deep layer of muscle stitched over it with a continued suture of silver wire. A small glass drainage tube is inserted down to the wire mattress. If the hernial opening is large, and there is much attenuation of the muscular coats of the abdominal wall, a second mattress of wire is placed between the layers of muscle and the superficial layer of muscle, together with the aponeurosis, are stitched over it. The cord is brought out from the inguinal canal externally and inferior to the internal abdominal ring. A notch, made by cutting with the scissors into the aponeurosis of the muscles, prevents strangulation of the cord, which lies directly under the skin in its course to the scrotum. The continued suture of fine silver wire will become encysted and remain so during life of the patient without occasioning any inconvenience. The second wire becomes encysted in the granulating tissue, preventing subsequent stretching. The silver wire is taken from pure carbolic acid and heated to a red heat by an alcohol lamp before its introduction, thus rendering it absolutely sterile.

In a paper published in the Medical Record, Feb. 2, 1901, Phelps says that transplantation of the cord external to the aponeurosis of the oblique is the proper method.

#### Radical Cure of Femoral Hernia.

L. W. Bacon, Jr. (Yale Med. Jour., January, 1901) describes the Gordon method, which he considers the ideal method and vastly superior to the Bassini. The primary incision begins at a point two inches from the pubic spine and three quarters of an inch above Poupart's ligament, passing first inward, parallel with Poupart's ligament as far as the hernia, or as far as the femoral canal; then turning downward in line with the axis of the leg, from the hernial sac to its lower border. Next, the anterior surface of the aponeurosis of the external oblique muscle, in the upper part of the incision, is prepared carefully for a full inch from its reflected border. The hernial sac is isolated, emptied of its contents, after which it is drawn out and freed from its subperitoneal fat. The pectineal fascia is cleaned out thoroughly in the upper part of the fascia ovals, and all the fat and connective tissue is removed from the inguinal canal. The crural vein, saphenous vein

and the falciform process of the fascia lata should not be touched. The sac may be transfixed and ligated as high as possible, or resected with suture of the peritoneum.

The aponeurosis of the external oblique muscle is incised in the direction of its fibres, about three quarters of an inch above Poupart's ligament, extending from a point well above the femoral vessels at a point internal to the free edge of Gimbernat's ligament. The underlying external oblique and transversalis fascia are separated gently from Poupart's ligament, and this structure emptied, as it were, of its muscular contents as far as the incision in the aponeurosis extends. The muscles are fastened in their new position with medium sized catgut or chromicized catgut, if preferred. The incision in the aponeurosis is sutured with fine catgut and the cutaneous incision is closed with fine silk worm gut.

#### Operation for Inguinal Hernia.

A. E. Benjamin (J. A. M. A., April 25, 1903) describes his operation as follows: The ordinary incision for the Bassini operation is made. The aponeurosis of the external oblique is slit up to a point opposite the internal ring. The fibres of the internal oblique and the transversalis muscles are divided by blunt dissection, thus opening the inguinal canal. The aponeurosis of the external oblique is carefully and thoroughly removed from the internal oblique. The lower portion is dissected down to Poupart's ligament and the transversalis separated from the peritoneum. The cord is raised. Silk worm gut sutures are introduced in the outer side of the incision, passing through the skin, Poupart's ligament, internal oblique and transversalis muscles, on the inner side of which the loop is made. The needle reentering the transversalis and internal oblique muscles passes through Poupart's ligament and comes out through the skin to the outer and lower side of the cut, near the point of entrance. From three to five sutures are similarly introduced. These sutures pull the internal oblique and transversalis muscles below the shelving edge of Poupart's ligament and make a firm barrier against external force. The sutures are tied over rolls of sterilized gauze. The spermatic cord rests on the internal oblique. The external oblique is closed over the cord. Interrupted figure of eight sutures are introduced, bringing the external oblique in apposition with Poupart's ligament. They also approximate the skin and are tied over the gauze roll. The sutures are left in place for two weeks.

The advantages of the operation are: 1. There are no sutures to be absorbed. 2. There is no additional culture media in which bacteria can grow. 3. There are no buried non-absorbable sutures to irritate the tissues. 4. There is no necrosis from tight sutures; therefore, few, if any, stitch abscesses. 5. The gauze rolls act as elastic cushions which prevent scars from sutures. 6. The operation completely closes the breach and makes a firm wall. 7. All sutures, after serving their purpose, are removed, leaving only the natural supports.



### Radical Treatment of Inguinal Hernia.

**E. Estor** (Semain Medical XXII, 1903). The sac is detached as high as possible and resected without previous incision of the aponeurosis of the oblique muscles. Two wire threads are then inserted in the pillars from the front backwards across the opening in the ring and then pass through the abdominal wall from behind forward, emerging well above and outside of the external inguinal orifice. The entire abdominal wall, comprising all the layers, is then drawn down and fastened over the inguinal ring, forming a solid wall of muscle and aponeurosis at that point, and leaving only as much of an opening as is absolutely necessary above the pubes for the emergence of the spermatic cord. Five parallel catgut or silk threads are then woven in about one c.m. apart to strengthen the aponeurosis, and then the skin is sutured. The author has performed this operation 24 times. The immediate results were perfect, except that in a few cases the testicle and cord appeared to be swollen for a few days; but this soon subsided without producing any further symptoms. There was an insignificant catgut stitch abscess in three cases, but he never found it necessary to reopen the wound. The re-enforced abdominal wall is more solid than the normal wall, and the results to date have been fine in every respect; nearly two years in the oldest case. Eight of his patients were children.

**P. Begouin** (Jour. de Med. de Bordeaux, Sept., 1903) speaking of Mugraie's modification of Bassini's method, says that this operation carries the cord behind the entire inguinal canal, closing both of its walls in front of the cord and allowing the latter to make its egress through the external ring. The weak point, the internal ring, is obliterated; the cord is surrounded by resistant tissue, the crural arch, Colle's ligament, the conjoined tendon and the internal pillar.

### Operation for Radical Cure of Hernia.

**C. Hoffman** (Zentralbl. f. Chir., Oct., 1903) describes his operation which he has performed on 45 cases during the past year with excellent results. He has noticed in all his cases of hernia that the inguinal canal has a funnel shape, the internal ring being very much dilated, probably a congenital defect, and that the spermatic cord at this point seems to be separated into its component parts, so that the hernia may find its way out through the canal by simply pushing the entire cord to one side. These findings must be taken into account in performing the operation for a radical cure as they are of importance and have much to do with the matter of recurrence of the hernia. The principle of the operation is the closure of the hernial sac within the parietal peritoneum and the establishment of a prop in the internal inguinal ring by one or more sutures, without, however, changing the position of the cord in any way.

In order to expose the hernial sac within the canal, it is necessary first to separate the cremaster muscle and the tunica vaginalis communis from the cord. This separation should be done not with the fingers, but with forceps and

scissors so as to obviate entirely the occurrence of suppuration. The author does not at any time throughout the operation touch the wound, except with sterilized instruments. A skin incision is made over the inguinal canal; the fascia of the external oblique and of the cremaster muscle is split, together with the tunica vaginalis communis, so as to expose the hernial sac and the internal inguinal ring. It is neither necessary nor desirable to remove from its bed the funiculus spermaticus. Hoffman does not molest this structure at all. After thorough isolation of the sac, it is opened and emptied of its contents. The peritoneal cavity is then closed by means of a catgut purse-string suture placed on the inner side of the hernial sac in the region of the internal ring on a level with the parietal peritoneum. This suture restores the fovea inguinalis. This procedure can be made more easy by splitting the hernial sac lengthwise into ribbons way back to the internal ring; then grasping the strips separately and pulling them outward, thus closing the hernial opening completely. Next take each strip separately and wrap around it and its fellows a very thin thread, at about the level of the purse-string suture. Cut off the sac just above this thread and the stump immediately retracts. In order to close the ring more surely, and to absolutely prevent a recurrence, pass a wire suture between the structures of the cord, which has not been disturbed in its bed, including in this suture the fibres of the internal oblique (refraining from injuring the inferior epigastric artery), then through the fascia transversalis in the posterior wall of the inguinal canal, and finally, avoiding the external iliac artery, the suture is attached to the everted Poupart's ligament. After this suture is tied, the inguinal canal is closed tightly, without compressing or injuring the spermatic cord in any way.

Hoffman says that any suture material may be used, although he prefers a medium sized silver wire. With a few sutures the inguinal canal is closed over the cord, although with this method this step is not of so much importance as is the case with other methods. The sewing of the split fascia of the external oblique muscle completes the operation. The normal anatomic relations are regarded and reproduced so far as is possible. The closure of the canal is more complete than with the Bassini operation.

Note: Dr. A. J. Ochsner (Zentralbl. f. Chir., April 2, 1904) points out that this operation is Ferguson's Operation, published four years previous to Hoffman's article, and overlooked by Hoffman.

### Surgical Anatomy of Hernia.

**R. C. Turck** made a careful dissection of the inguinal canal on 50 cadavers at the request of Dr. Alex. Hugh Ferguson and summarizes his conclusions as follows and supports Ferguson's claims: The basis of the operation for the radical cure of inguinal hernia (oblique) should be, first to restore the internal ring to its normal size and position; second, to so suture the internal oblique and transversalis muscles to Poupart's ligament as to give a firm protection to the internal ring. The spermatic cord should

not be disturbed. Dragging it out of its bed and placing it in a new position by suturing the internal oblique muscle beneath it, causes divergence in the internal oblique fibres immediately in front of the internal ring and in reality serves to weaken the muscle in a place where it should be strongest. Ferguson's operation is the only anatomic one.

**Jos. Blake** dissected 25 subjects with a view to making a careful study of the so-called conjoined tendon and the part it plays in the cure of radical hernia. He found that in no case did the insertion of the lower fibres of the internal oblique and transversalis extend for more than 5-8 of an inch laterally to the insertion of the rectus. In the majority of cases the extent was less than half an inch, and in some it was not appreciable and this insertion was formed almost wholly from the internal oblique. There was uniformly, however, a distinct dorsal wall to the inguinal canal formed of the thickened transversalis fascia, and this is evidently what is referred to as the conjoined tendon. His conclusions are as follows:

1. That what is generally understood to be the conjoined tendon, namely, the insertion of the lower part of the combined aponeurosis of the internal oblique and transversalis muscles laterally to the insertion of the rectus abdominis, seldom exceeds half an inch in width and is often inappreciable.

2. That this insertion consists almost wholly of fibres of the internal oblique muscle.

3. That generally it affords little support to the inguinal canal.

4. That, properly speaking, the conjoined tendon consists of the insertion of a few fibres of the internal oblique and transversalis with that part of the transversalis fascia known as the internal inguinal ligament, and which forms the main part of the dorsal wall of the inguinal canal.

5. These fibres apparently are only occasionally developed and generally found only in muscular subjects.

6. That the term "obliteration of the conjoined tendon" can only be applied to this structure.

7. That the lower fibres of the internal oblique are normally parallel with Poupart's ligament, except just at their origin, where they pass over the cord.

8. That the endeavor in radical cure should be to restore and maintain this parallelism, which is best done by Coley's modification of the Bassini operation.

9. The division of the internal oblique, either through its fibrous transplantation of the cord or as to its insertion by dividing the rectus sheath, is deprecated.

10. That the insertion of the internal oblique laterally to the rectus is of less importance than that to the sheath, so that it may be divided if the sheath is, and by blunt separation of the muscle fibres the cord can be transplanted to an intramuscular position without injury to the fibres or their nerve supply.

11. That we must look to muscular and fascial dimples rather than peritoneal dimples as factors in the causation of hernia.

## Conclusion.

A long and valuable article by Dr. Bloodgood, and another by Dr. Halstead must be read to be appreciated. Dr. Halstead has abandoned his former operation in which he transplanted the cord and is now doing my anatomic operation in its principle features, but he still clings to removal of veins in selected cases.

On page 664 "Handbuch der Praktischen Chirurgie" by Bergman, Bruns and Mikulicz, III B. I. T., appears a cut illustrating what is called Girard's Operation, where the internal oblique muscle is sutured to Poupart's ligament and the cord left in its normal position. Girard's publication was carefully looked up by Dr. Eisendrath, of Chicago, and shows that it first appeared November, 1900, in the Archives Provencales de Chirurgie after Dr. Alex. Hugh Ferguson's publication in the Journal A. M. A., July 1, 1899, incorporating these ideas but more completely and read before the American Medical Association at Columbus, Ohio. No doubt another oversight which of course can be readily understood.

Part of the discussion will be found on page 207.

## Discussion.

**Dr. Alex. Hugh Ferguson:** I do not understand Dr. Eckley when he says that this muscle (internal oblique) will atrophy and lose its function when it maintains its normal insertion and is given its normal origin by being sutured to the inner aspect of Poupart's ligament. It is free to relax and contract and neither is its circulation or innervation interfered with and it does not therefore lose its normal function.

In fact, we occasionally take the sartorius muscle and give it another direction and it functionates, and atrophy of it does not take place. We transplant muscles with the very idea of their performing muscular functions to take the place of paralyzed ones. The point that Dr. Eisendrath tried to make in regard to closure of the internal ring I think was not well taken for he must understand that the making of a new internal ring is from the transversalis fascia. I have always maintained that the internal ring must be made as small as possible without injury to the cord. In those cases where the hernial opening extends down to near the pubic bone the transversalis fascia can be sutured in such a manner as to bring the internal ring and root of the cord into their normal position or even higher. The removal of the veins of the cord though carried out by some surgeons should be severely condemned because of the atrophy of the testes that may follow.

**Dr. MacArthur:** I would like to ask Dr. Ferguson whether he would have any hesitation in curing a varicocele to ligate the veins and yet he would hesitate to do it in performing a hernia.

**Dr. Ferguson:** The problem in varicocele is very different from that in removing the veins of the cord in hernia. The pampiniform plexus in varicocele lies spread out in the scrotum as a broad, freely anastomosing net work of dilated veins. This net work empties into a few



venous trunks which accompany the cord through the external inguinal ring and up the canal to the internal abdominal ring.

Now removing several dilated branches of the rich plexus in the scrotum has a very different effect from removing any of the few trunks which accompany the cord at its upper portion. In varicocele the dilated veins are removed below the external ring where the collateral branches are many, while in hernia the veins are ablated above the external ring where the collateral branches are few, and those allowed to remain may not suffice for the return flow of the venous blood from the testical and atrophy of that organ ensues in a percentage of cases.

There is no objection, however, in fact it is indicated to carry out the usual surgical treatment (removal of veins) for varicocele, when it complicates a hernia.

#### CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Meeting held May 23, 1904, with the President, Dr. John Edwin Rhodes, in the chair.

#### Radical Operation in Chronic Suppuration of all Accessory Sinuses at One Side.

By Herman Stolte, M. D., Milwaukee, Wis.

I have the opportunity of demonstrating to you the final result of an operated case of very chronic extensive suppuration of all accessory sinuses on the left side. In this case, a perfect cure was obtained in a relative short time of 2½ months, by performance of the Luc-Caldwell antrum operation and on the other hand of the Killian radical operation of the frontal sinus done in one narcosis. The history of the disease is briefly this: The suppuration had started obviously from the antrum Highmori very likely from a decayed tooth, which had been filled eight years ago. Since that time the patient suffered from toothache and dull pain in the left upper jaw, which oft times swelled up. Two years later, about six years from the present time, by a severe attack of influenza, the process spread from there to the other sinuses. Owing to the peculiar narrow anatomical conditions in this nose, the patient suffered since that time constantly from perfect obstruction of the nose, from purulent discharge, a kind of dull headache, general nervousness and sometimes from slight degree of mental depression accompanied by a high degree of anaemia.

Polypi, as the supposed cause of the molesting obstruction and discharge, were removed several times by other specialists, but the grave symptoms naturally persisted. When the patient came under my care in December of last year, I found a complete obstruction of the left nose by a rather extensive deflection of the septum and a big crista prominent from the latter. The remaining small space was filled out with enormous polypi from between which abundant fetid pus emanated down. The turbinated bones were not to be seen. Transillumination showed striking darkness of the

antrum, and slightly marked darkness of the frontal sinus, the subjective light shine of the left eye being much diminished. So it was proven that at least a chronic empyema of the antrum existed, very likely with necrosis of bone according to the character of the pus. By several preliminary operations under the cocaine: extensive removal of the big crista, extraction of the polypi and removal of two-thirds of the highly swollen degenerated middle turbinated bone—a good view of the diseased area inside of the nose was obtained, and after using all examination methods it was obvious that there was not only an empyema of the antrum, but also of all other sinuses; the antrum alone discharging fetid pus owing to the necrosis of bone. I did not attempt to influence the antrum suppuration by smaller surgical interferences, as I was convinced of the fruitlessness of these steps according to the supposed presence of necrotic bone and the duration of the disease. After syringing the frontal sinus for some time, (which was very difficult owing to the high degree of the deflection of the septum.) I found there was absolutely no improvement in the condition of the frontal sinus. As to a proposed curettage of the diseased ethmoidal and sphenoidal cells the patient, whose nervous condition was very bad, declined decidedly any further operation inside the nose by cocaine. So I had to propose one extensive radical operation of all sinuses in one narcosis. At first the Luc-Caldwell operation of the antrum Highmori was performed. The first step after having clogged the left choana with a sponge was to remove two-thirds of the inferior turbinated bone. Then the external wall of the upper jaw was removed sub-mucously to the foramen infraorbitale and to such extent, that one had a very free view into the cavity. In the antrum I found a good sized round shaped sequester one inch in diameter, the cause of the horrid mentioned odor, and the cavity filled out with big masses of myxomatous granulation tissue. After completely curetting out the granulation masses and the very much degenerated lining membrane, the bony nasal wall of the antrum was removed. Interiorly to the junction with the external wall, posteriorly to two-thirds of the turbinated bone, inferiorly to the floor of the antrum, superiorly to the ethmoidal cells. The formation of mucuous membrane flaps out of mucuous membrane of the inferior turbinated bone for grafting the new cavity, as suggested by Jansen and later by Behrens, of New York, was not attempted because I do not think this process will shorten the healing in any marked extent. The oral wound was not closed, in order to avoid following periostitis and to control the cavity for a few days. After eight days the wound was closed by external tampon pressure. Then I proceeded with the Killian operation. The first incision through the skin begins on the outer end of the eyebrow, runs through the middle of the whole length of the same and turns on the inner end of the brow downward in a nice curved arch-shaped line to the middle of the frontal process of the upper jaw through the musculus quadratus labii superioris



outward and downward, ending one centimeter below the level of the nasal bone. This incision is followed by an abundant bleeding, the stoppage of which is very difficult and tiresome because the periosteum is not to be divided and cannot be pushed aside. Then follows the upper periosteal cut along the supraorbital ridge from five to six millimeter above it. The cut ends between the upper end of both nasal bones. The following lower periosteal cut is made to outline the lower edge of the bony bridge, to be formed out of the supraorbital ridge. This cut follows exactly the supraorbital ridge and ends in the former skin incision in the middle of the frontal process of the upper jaw. Above the inner end of the upper periosteal incision a small disk of bone is preliminarily removed by chisel or drill, after having pushed the periosteum upwards to explore the contents and extent of the frontal sinus. After finding out the upper limit of the frontal sinus by use of a probe the periosteum is pushed upwards to the same height and then after formation of a slight groove with chisel following the superior periosteal cut, the anterior wall is broken away by Stille's forceps. Great care must be exercised to smooth off all the cut-edges of the opening by means of bur or chisel so that there may be no rough prominences which may irritate the later superimposed skin. Further in the frontal cavity all septa are to be removed with bone forceps and especially the posterior surface of the bone bridge is smoothed off. The degenerated lining membrane and all granulation are curetted especial care being taken to include all temporal orbital niches. Now using the chisel close behind the supraorbital bridge I broke through the floor of the frontal sinus forming a little hole. From this proceeding one removes the floor close behind the bone bridge as far as possible with Hartman's thin curved bone forceps. Now the periosteum in the lower skin-periosteal cut is pushed aside inwards to the edge of the nasal bone outwards to the infra orbital edge, lachrymal sack and orbital roof. Here we must take care not to peel off the periosteum outward beyond the supraorbital nerve which is not necessary if we succeeded in removing all the floor of the frontal sinus from above. The lachrymal sack is replaced to its outer insertion. On the lower end of the cut the frontal process is broken off by means of Stille's forceps, preserving the nasal mucus membrane. Towards the lachrymal bone and from there inwards and upwards one has to use a chisel as the bone plate here is very thick and compact. So removing the orbital wall one again comes into the before partly broken off floor of the frontal sinus and is now able to remove it thoroughly with all its orbital and temporal niches of ethmoidal cells. The lachrymal bone is preserved as much as possible, especially in its outer part. Great care must be exercised in removing the orbital roof, that is the floor of the frontal sinus, especially on the lower edge of the bone bridge, (supraorbital ridge) in order to preserve the tendinous insertion of the trochlea (holding the obliquus muscle), radiating partly to that mentioned bone ridge. When we preserve this

supporting point, as we have mostly to detach the trochlea itself, we don't get double vision by inactivity of the superior oblique muscle. In my case the trochlea was detached downwards by pushing away the periosteum, but the above mentioned supporting fibers, inserting the supraorbital ridge, were preserved. The patient had afterwards no sign of double vision. The trochlea is situated half a centimeter from the supraorbital foramen and is sometimes not to be touched at all if we succeeded before in removing the floor of the frontal sinus to its greatest extent from above in the first steps of the operation. Now the undamaged nasal membrane is detached making a longitudinal incision along the nasal bone. Here we are confronted by the so called frontal cells of the anterior ethmoidal cells surrounding the frontal duct. (These are carefully removed in the same way after nipping away the middle turbinated bone, if this is not removed before). We clean out all the now freely exposed ethmoidal cells with Hartman's cutting forceps and with curette. In my case it was also necessary to open the sphenoidal sinus as it was also diseased and freely discharged pus. Then after stopping thoroughly the bleeding by swabbing with hydrogen dioxide and temporary iodoform gauze tamponade in the region of the ethmoidal cells a perforated rubber drainage tube is inserted reaching from the temporal angle of the wound, to the nasal floor. Free drainage is thus guaranteed. Then the external wound is very carefully closed with celluloid thread which does not favor stitch suppuration. Before and after operation atropin is put in the eyes to prevent irritation of the iris. The dressing is made with moist boric acid gauze and is changed daily. The thread is removed on the sixth day, the frontal sinus is not syringed out, only the funnel leading to the frontal cavity oft times being brushed with two per cent nitrate of silver or Argyrol.

Here you see the final result of the operation. Outside you see there is not any disfiguration at all above the supraorbital ridge which as bridge supports the whole skin flap. You do not see any sinking in of the anterior wall or any depression neither here or below the bone bridge in the orbital wall, this and the frontal process being regenerated out of the periosteum. You cannot see a scar excepting a fine white line in the inner angle of the eye. The cosmetic result cannot be better. Inside all is healed up and you have no secretion, the antrum Highmori being obliterated to the half of its former size, the inner surface being outlined with healthy mucuous membrane.

#### Discussion.

**Dr. John Edwin Rhodes:** I would like to ask the doctor whether there was an injury of the supraorbital nerve, and if so, what was the effect. Also what steps are taken to prevent such injury.

(1). To the question of Dr. Rhodes. Is it possible to preserve the supraorbital nerve?

One can isolate it and push it out of the field of operation, but this manouvre requires the undivided attention of an assistant and in-

creases the difficulty of the operation to a considerable degree. In my case the nerve was cut through and the patient suffered afterward from a certain degree of numbness in the superior orbital region.

(2). To the question of Dr. Gradle. How to form the mucous membrane of the nose as Killian advised. I too like most readers of Killian's work do not understand his description of formation of the flap. I personally made a longitudinal incision along its internal edge and continued the incision a little backwards along the nasal roof and pushed the detached flap outwards in the region of the removed ethmoidal cells.

(3). To the question of Dr. Casselberry. Does not the detachment of the trochlea produce double vision? As I said before in some cases the whole trochlea may be preserved when one succeeded in breaking down the whole floor of the frontal sinus from above. In this case, removing the periosteum from the orbital wall outwards from the foramen supraorbitale, we don't need to detach the trochlea at all. If we had difficulty in removing the whole floor of the frontal sinus from above, we are forced to detach the trochlea down and outwards together with the periosteum, but we have to take great care to preserve its tendinous insertion on the supra-orbital ridge. So we seldom get double vision afterwards because the supraorbital muscle is supported by these preserved fibres.

**Dr. G. Morgenthau:** I wish the doctor would tell us something about the formation of the flap advocated by Killian which aids so much in the healing.

**Dr. Stolte:** Killian's description of the formation of the flap is not accurate. I think it must be a typographical error, because I had considerable trouble to study out just what he meant. It is a very simple matter to make the flap. In my case I made a longitudinal incision along the external edge at the nasal bone; above on the lamina cribrosa I continued the incision half an inch backwards and turned then the flap outwards towards the region of the removed ethmoidal cells, covering this area and fixing the flap afterwards by the drainage tube and strip of gauze.

**Dr. Casselberry:** Although the essayist in an informal way described the care that should be taken of the superior oblique muscles of the eye, I did not understand him. Some oculists tell us that an injury of this muscle has resulted in an obliquity of the orb. I wish the doctor would give us some information on that point.

**Dr. Casselberry:** You think that it is necessary to detach the bulk of the muscle, leaving it attached by only a few fibres.

**Dr. Stolte:** In most cases, as I described them before, yes.

**Dr. Gradle:** I have never done Killian's operation, but I believe I can see what is done. The muscle is spared by its insertion into the periosteum; so that if the periosteum retains its position in part, a part of the muscle is

spared. Quite a number of Dr. Coley's (?) cases had double sight, although they all recovered, if I remember correctly.

**Dr. Beck:** Dr. Faith operated a case of this kind by the Killian method, and he got squint following the operation. By a second operation he fastened the trochlea to its original position and the result was very satisfactory. I saw the case after both operations, three weeks elapsed between the two, and I believe such a thing can be done. There was a great deal of scarification.

**Dr. Casselberry:** I did not understand whether Dr. Stolte got double vision in his case.

**Dr. Stolte:** No, I operated two cases till now, but I never got double vision.

**Dr. J. Holinger:** In the last issue of the *Archiv fuer Laryngologie*, Siebenmann speaks about an operation I saw him do for double side of the frontal sinus. He connects both cuts over the bridge of the nose to form an "H," removes the support of the glabella and pushes the whole glabella backward so that the cavity of the frontal sinus is reduced to about one-third its original size. He often removes the trochlea. I asked him about the consequence of this, and he told me that the trochlea always finds a place for anchorage and that after two weeks all the symptoms passed, unless you injure the muscle and the tendon.

#### Presentation of Cases Operated Upon for Deflected Septi.

**Dr. C. M. Robertson:** I am preparing for publication a paper on this subject and had not intended to say anything at this time until requested to do so by the secretary. My cases were not all true Gleason operations. In one there was a large echondrosis which was sawed off. In nearly all the cases there was hypertrophy on crest of the deflection. I did not pay attention to the mucous membrane. If the hypertrophied crest was in the way I sawed it off and let it heal over with new tissue.

In Gleason operations on the septum the cause of failure nearly always is because the posterior flap is not extensive enough. In two cases the result was nil on this account. Both cases refused to allow me to finish the posterior flap. The feature I like about this operation is that the nostril does not have to be kept packed into position like in the Ash operation, or the operation of dissecting out the cartilage, and it requires but a few moments to perform. In one of the cases the nose was packed for only two days, and another for four days; the longest for a week. No tube was used, except in one case. Here the tube was retained for two days, when it was taken out because it irritated the mucous membrane.

In sawing on a bevel and push the cartilaginous flap through a buttonhole, the bevel makes a piece larger than the hole, so that when it is in the new position it remains; a distinct advantage. You will notice that one can hardly detect where the saw incision was made; it does not leave much scar, and in some cases it is almost impossible to tell that any



surgical interference was carried out. No scab forms. The nostrils are patulous.

**Dr. Gradle:** I would like to ask Dr. Robertson about a few details of his operation.

**Dr. Casselberry:** Before Dr. Robertson replies, I would like to ask him whether he can briefly sketch the particular conformations of the septum that he judges suitable for the Gleason operation.

**Dr. Robertson:** The Gleason is not an operation for all kinds of deflections. In one of the cases there was a deflection in which there was a large cleft. In that case excision of the cartilage would have been suitable. In another case there was a simple angular deflection, with the septum of the same thickness throughout its extent. The third case had a sigmoid deflection the upper bend about opposite the middle turbinal, and the lower ran out in an echondrosis. This was first sawed off in order to get a septum of about the same thickness, and then the Gleason operation was performed.

When the deflection extends back onto the vomer the posterior flap must be higher than in the other cases. The higher the better. The posterior flap must come around like this, (illustrating) and the top of the flap should not be too broad or stop short of the top of the deflection.

As to the technique of the operation: The nostril is made as patulous as possible, by removing parts of enlarged turbinals, before the operation is begun. When a turbinal is hypertrophied on the inner surface, it is trimmed. These cases are exactly as they were after the operation was completed. Nothing has been done since then. I spray the nostril clean, and then apply alternately cocaine and adrenalin. In some of these cases I myself cannot tell where the scar is.

(Talk was interspersed by blackboard diagrams illustrating the steps of the operation).

**Dr. A. M. Corwin** presented a fibrinous cast of the trachea, and bronchi reaching the fifth and sixth divisions of the bronchial tree. These casts are relatively rare, but are illustrative of the complications we may see even in seemingly favorable cases of laryngeal obstruction.

The patient, a well nourished girl, aged 18 months, had been ailing for about a week. I saw the child in consultation twenty-four hours after the severe laryngeal trouble began to develop. There was no profound depression, such as we see in diphtheria; no angina; no involvement of the lymph glands; simply hoarseness, increasing a little each day, until yesterday afternoon when there was imminent asphyxiation from laryngeal stenosis. I performed intubation immediately with prompt relief. At three o'clock this morning twelve hours after introducing the tube was becoming stopped up, I removed it and found it partially filled with some of this fibrinous material. As the breathing was not relieved, the tube was replaced. The breathing improved for about one minute, when there came on strangling and vomiting, which expelled the tube and with it the cast exhibited. This relieved nearly all the laryngeal symptoms. Breathing was free and the tube did not have to be replaced the larynx

remaining free to the end. However breathing was very rapid and difficult, evidently from pulmonary involvement.

The lower portions of the chest were dull, and the respiratory murmur over these areas feeble, with numerous fine rales. The temperature was elevated having risen from  $99\frac{1}{2}^{\circ}$  to  $103^{\circ}$  during the few hours preceding; the pulse was good throughout the attack and the cardiac sounds and action normal only failing with the membranous extension into the smaller tubes—a fibrino-capillary bronchitis—which terminated with the child's death this a. m. at ten o'clock, nineteen hours after the introduction of the tube which entirely relieved the breathing for about six or eight hours. After this the pulmonary involvement seemed to develop very rapidly. I would further state that antitoxin was administered some 48 hours before death this symptom of diphtheria was not at all suspected, but in order to give the child the benefit of the doubt. Bacteriologic examination was negative. Two other young children in the family had been in and out of the room with the patient but have shown no evidence of illness.

**Dr. O. T. Freer:** Dr. Robertson's results are very good. The Gleason operation is efficacious for deflections having a shape and thickness suited to it; like all fracturing operations however, it is not an absolutely certain procedure. Gleason prefers to have bone in the neck of his flap as its fracture assures the success of the operation while a cartilaginous neck is too elastic to break in many cases. The great variations in the thickness and strength of the perpendicular ethmoidal plate seem to me also to make its fracture by the finger not a result to be counted on. Dr. Robertson has referred to the uncertainty in cutting the posterior crus of the "U" properly. Nevertheless the Gleason operation is the best of the fracturing operations and Dr. Robertson's results in the cases he has shown are excellent.

#### Presentation of Cases.

By J. Holinger, M. D., Chicago.

**Case I.** Mr. M., 45 years of age, complained that his left nostril had been stopped up completely for seven years. During that time there was only a slight discharge and no constitutional symptoms, especially, no headache. Five years ago, and again two years later, polypi were removed from the nose. They were very large and considerable hemorrhage followed their removal, but not so much as at subsequent operations. Since last fall he has been troubled a great deal with epistaxis, often coming on without any apparent cause. During the past three months there has been a very profuse, thick, yellow discharge, of fetid odor, from that nostril, necessitating the use of six or seven handkerchiefs a day.

An examination made April 7th, revealed the following: The right nostril was patulous and free from any tumor. The left nostril was filled up to the vestibulum by a bluish-gray, soft, non-transparent tumor. The turbinals were invisible. An attempt was made to circumvent the tumor, but a very profuse hem-



orrhage resulted, necessitating tamponade. This led me to suspect that the tumor was a sarcoma. I excised a small piece, which, on microscopic examination, was pronounced by Dr. Wm. A. Evans to be malignant. At his request a larger piece was removed a few days afterward, and this, too, was pronounced malignant. When I removed this last piece I anticipated a profuse hemorrhage, but before we could tampon the nostril with gauze, which was held in readiness by the assistant, the patient lost 150 c.c. of blood.

Being unable to determine the exact origin of the tumor, I deemed it advisable to examine the main sinuses. I opened the frontal sinus, making an incision as advised by Killian for his radical sinus operation. Passing through the anterior ethmoidal cells into the depth of the nose, I examined the maxillary sinus and removed the greater portion of the tumor from the upper posterior part of the septum. The turbinates hardly could be felt because of pressure atrophy. The hemorrhage was profuse from the moment I entered the nose through the ethmoidal cells, but was well controlled by packing with gauze saturated with compound tincture of benzoin, a favorite method of Prof. N. Senn. The naso-pharynx was packed from behind.

The packing was removed on the third day after the operation, and the patient returned to work on the fourteenth day.

I show you this patient for two reasons. First, because I want to call your attention to the fact that the Killian incision gives us easy access to all the accessory cavities of the nose. Second, because the duration of the healing was only two weeks.

Case II. Mr. G., aged 16, had scarlet fever when two years old. For the past six years he has had a discharge from his right ear, and at times dizziness, headache and deafness. The left ear is normal. I examined his ear on March 22d, and found that the tympanum was absent and the handle of the malleus without support. The upper posterior portion of the meatus nearest the annulus is missing. Granulations were seen on the promontory near the niche of the round window. Air does not pass through the eustachian tube, no noise of perforation was to be heard, but at the place of the opening of the tube, on a level of the promontory, a new membrane is seen to bulge, when Politzer's test is applied.

The discharge was very fetid. The ear was cleaned daily, and sometimes there was no discharge for several days. After the middle of April the fetid discharge and dizziness reappeared. I operated on April 29th. The posterior wall of the meatus was removed, as was also the lateral wall of the aditus and the antrum. The pars epitympanica, together with the malleus and the incus, were left *in situ*. The antrum had been transformed into a large cavity lined with epidermis and filled with cholesteatomatous masses. The flaps of the meatus were fixed in the upper and lower angles of the external wound with buried sutures. A "Y"-shaped incision was made in the concha. The lining of the cholesteatoma cavity was left

undisturbed. The wound behind the ear was closed, and the remainder packed with iodoform gauze. Recovery was speedy and uneventful.

On May 4th, the dressing was changed and the sutures removed. May 7th, I used silver salve and after May 9th, I applied vioform but no dressing. The granulations on the wall disappeared in due course of time without special treatment.

#### Discussion of Dr. Holinger's Cases.

**Dr. Jos. C. Beck:** I would like to call your attention to the fact that by pushing against the granulations on the inner wall the patient felt dizzy, and that the patient also was quite deaf. Those are two characteristic symptoms of labyrinthian disease, although his operative procedures did not throw any light on that point. He left it alone. If it was, the patient would not be so well now.

We ought to have a clearer picture of this labyrinthian necrosis. I was particularly interested in this case because the literature, at present, is full of the subject of labyrinthian necrosis and the operative procedure to be followed.

In regard to leaving the cholesteatomatous matrix, I can say from my own experience that I left it *in situ* in one case. I have seen the case from time to time and there has not been any recurrence of the cholesteatoma, no discharge or fetor in the mastoid region, after two years, and yet it is always exposed to the air through the external auditory meatus.

**Dr. Holinger,** (closing the discussion): I know that Laufal, and others, have made it a point to scrape and burn and do other things with the cholesteatoma matrix, but what can they put in its place? What is the cholesteatoma matrix? It is the epidermis which has covered a granulating surface. It is a scar with a bony base. There is nothing to be found in the cholesteatoma matrix, either macroscopically nor microscopically, to differentiate it from a scar; therefore, as long as you have nothing else or better to put in its place, why not leave it? In our case the cells have proved their vitality by covering the granulating surface. Be careful that no retentions are possible.

As to the diagnosis of labyrinthian disease: I did not nor could I make the tuning fork tests, because the other ear could not be excluded. But because of the granulations on the wall of the labyrinth, I did not see what else it could be called, except an ulcerative process of the wall of the labyrinth. The extreme dizziness spontaneous and on touching of these spots, as well as the deafness are characteristic. I would not be surprised if the ear, after a while, recovered some of its hearing power.

#### Radical Operation for Suppurative Antrum.

Case Exhibited by Dr. Jos. C. Beck.

**Dr. Beck:** Dr. K. has for two years been suffering from suppuration of the antrum of Highmore. He came to me a year ago with a tube slipped into the antrum, causing marked

edema of cheek and much pain. I removed it with a sharpened, curved, hooked probe. I recommended a radical operation, the Caldwell-Luc, which I did last December. I did not open the lateral wall of the nose from the antrum, but from the nasal side, after removing more than two-thirds of the inferior turbinated body.

First, I made a large opening through the canine fossa, exploring the sinus thoroughly, curetting and packing it, and putting in temporary drainage, passing the gauze through the opening in the nose and out through the inferior meatus. I used the compound tincture of benzoin and wish to recommend it highly as an intranasal dressing. The external opening was allowed to close without much interference.

The most distressing symptom that called for operation in this case was a severe gastritis, which interfered with the patient's well-being. There was a foul discharge, which could not be controlled. Irrigations with a ten per cent solution of argyrol were continued by the doctor himself after opened. He has just recovered from an attack of lobar pneumonia during which time the irrigations were discontinued, and after his recovery he found only a little mucus secretion.

I examined him a few days ago and found that the opening in the nose was much reduced in size, just admitting an irrigating tube.

There are no signs of other involvement, and the result is very gratifying. The disease was of dental origin.

#### Discussion of Dr. Beck's Case.

**Dr. W. E. Casselberry:** Was the turbinectomy done preceding the opening into the canine fossa and under general anesthesia, or did it antedate the general operation? I also question whether it is proper to describe this as a Caldwell-Luc operation. Luc closed the external wound. He made an opening through the inferior meatus of the nose for drainage and medication, but he closed the wound in the mouth. The operation the doctor described antedates the Caldwell-Luc operation.

**Dr. Beck,** (closing the discussion): This is not the Caldwell-Luc operation, but is like it. The external wound was left open. The operation was performed in one sitting under complete anesthesia, doing the turbinectomy first, then plugging the nostril with gauze, then making the large opening through the canine fossa, curetting and packing. The gauze was removed from the nares and I opened from there into the antrum.

This patient was operated by Dr. Gilmer, and if he did this operation before Caldwell-Luc, I do not see why he did not do it in this instance. I believe, Dr. Casselberry did the primary puncture through the inferior meatus.

## IMPORTANT NOTICE.

Ottawa, Ill., July 28, 1904.

#### To the Editor:

In the official proceedings of the House of Delegates as published in the last minutes an error crept in relative to the composition of the Committee on Medical Defense. The Committee should read Drs. W. A. Evans, H. N. Moyer, G. N. Kreider, E. J. Brown and H. C. Mitchell.

E. W. WEIS, Secretary.

# The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

## PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

### The Treatment of Summer Diarrhea.

In the treatment of any form of diarrhea an accurate diagnosis must first be made. For convenience it is customary to classify diarrheas somewhat after this fashion: 1. Diarrhea of relaxation, or serous diarrhea, due to disordered innervation; 2. Crapulous or lenteric diarrhea, due to imperfect digestion; 3. Catarrhal diarrhea, acute or chronic; and 4. Ulcerative diarrhea, due to intestinal ulceration.

This classification is by no means perfect as is shown by the multiplicity of terms applied to the various pathologic states characterized by diarrhea. Thus we have the terms acute inflammatory diarrhea, acute summer diarrhea, choleraic diarrhea, dysenteric diarrhea, nervous diarrhea, tuberculous diarrhea, etc. In each case the diagnosis is determined by the actual condition prevailing, of which the intestinal laxity is usually but a prominent symptom.

The question of treatment is one of the utmost importance. Without entering into a discussion of what soon proves to be a very broad subject, it may be worth our while to consider briefly the status of the antiseptic method of treating intestinal disorders, especially those caused by pathologic organisms and of which diarrhea is the chief symptom. Apart from well-directed efforts to clear the intestine of bacteria, reduce the temperature, sustain the vitality of the patient, regulate the diet, secure proper hygienic conditions, rest, and good care, the selection of the proper antiseptic agent demands the exercise of the physician's best judgment.

Whether or not it be possible to attain intestinal asepsis is of course a debatable question, but it is a well-established clinical fact that intestinal antiseptics do good and modify the course of enteric diseases of bacterial origin, notably typhoid fever, dysentery and summer diarrhea. However, there is a difference in the degree of efficiency of the various antiseptics, the utility of many being limited by the risk of untoward action from excessive dosage. In those cases of ileo-colitis caused by the bacillus of Shiga many of the serious symptoms are due to a mixed infection, to combat which prompt and vigorous measures are required.

The experiments of Novy and Freer (*Contributions to Medical Research*, p. 114) with benzoyl-acetyl-peroxide (Acetozone) showed that this substance is extremely germicidal to the organisms found in the alimentary canal. Its administration to rabbits resulted in the "practical

sterilization of the contents of the stomach." In several experiments with these animals "the intestinal tract apart from the cecal pouch, was found to be sterile." Neither bouillon tubes nor agar showed growths, though the controls gave abundant cultures. Other experiments showed that enzymes and toxins are also destroyed or rendered inert by Acetozone. Further study demonstrated not only the remarkable germicidal power of Acetozone, but also the fact that its aqueous solutions may be given internally, and even injected intravenously, without harm. From these data we infer that this substance ranks among the most powerful germicidal agents, while it exerts no harmful effect upon the human organism, and may, therefore, be employed as a therapeutic agent in the treatment of summer diarrhea and other infectious enteric diseases with the best effect. There seems to be abundant evidence to warrant the suggestion that Acetozone solution should prove most valuable in colonic flushing, as it is entirely free from the danger that attends the use of large quantities of even weak solution of mercuric chloride, and for that reason may be used fearlessly.

**A Youthful Gonorrheic.**—Dr. Nelson W. Wilson, of Buffalo, N. Y., reports an interesting case of gonorrhea in a boy of nine years. The patient was received at the hospital in considerable pain because of inability to urinate. The bladder was greatly distended and the patient said he had not urinated for about fourteen hours. Examination showed the penis edematous, swollen and phymotic, and the presence of a large quantity of suspicious looking pus, which showed the presence of gonococci. As the condition required immediate attention the phimosis was cut and a catheter inserted into the bladder. A large quantity of cloudy urine was withdrawn and the bladder washed with a permanganate solution, 1-8000. He was put on urotropin, .195, g. three times a day, catheterized every six hours and the permanganate solution was continued. During the next three days his temperature rose to the neighborhood of 105° and he could not urinate voluntarily. On the fourth day he was put on uriseptin and urotropin discontinued. The next day he urinated voluntarily but with some pain. Treatment now consisted of washing the bladder with the permanganate solution, uriseptin internally and keeping the bowels open with salines. Recovery followed in six weeks.





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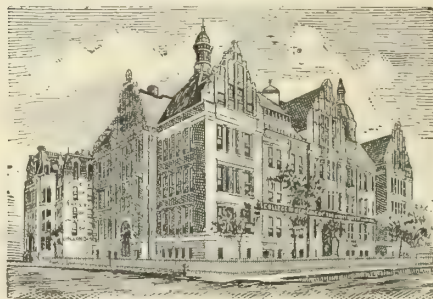
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## THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.

BY FRANK BILLINGS, M. D., CHICAGO.

The diagnosis is of primary importance in all diseases.

The early recognition of pulmonary tuberculosis is doubly important because the disease may be arrested in the incipient stage by the application of proper hygienic measures. If not recognized until the disease is advanced, restoration to health is less likely to occur under the best management.

It is probably just to say that pulmonary tuberculosis is not recognized in the early stage in the majority of people who suffer from the disease. The non-recognition of the disease in the early stage is chiefly due to two factors: First, the patient often ignores the slight, dry, hacking cough, the lassitude, the lessened endurance, the nervous tire, the poor appetite, etc., which may indicate the beginning of the disease; and, second, the failure of the physician to examine the patient thoroughly by all the means and measures which experience and modern scientific methods afford.

It is true that occasionally the disease is recognized in its incipency with difficulty, but in the great majority of patients care and thoroughness in examination will reveal it. In the doubtful case the physician who recognizes his responsibility will apply every resource at his command, and by repeated examinations finally reach the truth. It will be no reproach to him if he is unable to discover the disease in certain instances, but he will be to blame, if, not satisfied in his own mind, he does not in all doubtful cases seek the aid of a brother physician whose experience and skill may help him to make a diagnosis.

To make a diagnosis of tuberculosis when the disease is not present is embarrassing

to the physician, but this error cannot result as disastrously to the patient as the failure to recognize the disease when it is present.

*The Methods of Diagnosis of Pulmonary Tuberculosis.*—I shall not attempt to go too much into details in attempting to write the methods of making a diagnosis in tuberculosis. Should I do so, it would make this article too long, and possibly confuse those whom it is intended to instruct.

The plan which will be pursued in an attempt to make plain the methods of procedure in the examination of the patient will be to follow a systematic scheme. This will make the discussion of the subject easier, and although it may not always be necessary for the physician to follow the scheme as given, still it must be admitted that an orderly, systematic plan will usually be of aid to the physician, and will obviate the chance of the omission of some important means of arriving at a diagnosis.

Usually it will be best to, first, obtain a history of the patient's life. This may be obtained usually without great loss of time by allowing the patient to tell his own story, guided perhaps by judicious leading questions. In tuberculosis it is well to know the *Social History*; the age, the civil state, the occupation, the home surroundings, including the sanitary conditions, the habits as to the use of alcohol, tobacco, the character of food, the hours of work and of sleep. Second, the *Family History*; which should include the age and causes of death of deceased relatives, especially grandparents, parents, brothers and sisters, and the state of health of living near relatives. Third, the history of *Previous Diseases* from which the patient has suffered, and the state of health thereafter. Fourth, the patient should also tell of the disease for which he seeks consultation, and especially as to its mode of onset, with the symptoms as noted by the patient or the friends up to the time of examination.

From the social condition of the patient one may learn if the occupation is one which obliges him to remain much within doors, especially if the place of work is unwholesome from insufficient air space, want of sunlight, or if the air is contaminated with smoke, dust, chemical fumes, etc., which irritate the mucous membrane of the air passages. Tuberculosis occurs most frequently in young adult life. The negro is especially liable to the disease.

In reference to the home life of the individual, it is important to learn if the sleeping rooms especially are light and the ventilation good. An over-indulgence in tobacco, especially smoking, may excite a catarrh of the air passages, a condition which may render an individual more susceptible to tubercular infection. The constant use of alcohol predisposes one to the disease.

From the history one may learn that tuberculosis has been prevalent in the family. This does not mean that the germ has been inherited, but it is probably true that a type of tissue may be inherited which furnishes a soil on which the germ of tuberculosis may more readily grow than in another individual whose family type of tissue is more resistant. It is most important to know if tuberculosis exists or has existed in the family, or in the same residence with the individual, inasmuch as it has been proved that direct contagion may occur by means of the tubercle bacilli in the dust-laden air of a dwelling, or by means of the hands, household utensils, etc., contaminated by touching articles of furniture, door knobs, etc., in houses in which a tubercular individual lives or has lived.

In obtaining a history of the previous disease, it is well to note the occurrence of attacks of pleurisy, of measles, whooping-cough, la grippe, pneumonia, bronchitis, or any other infection which is associated with catarrh of the respiratory passages. The existence of enlargement of the glands of the neck, scrofula so-called, in children of the family is important.

The history of the present disease may elicit the mode of onset of pulmonary tuberculosis which is most usually by an attack

of bronchitis in one who has been previously in a good state of health. This attack is often called "a cold," or it may be a part of influenza, of measles, or of whooping cough. It differs from these diseases, however, from the fact that the patient does not become entirely well, and usually the cough persists with or without the expectoration of mucus or mucus and pus. Slight elevation of temperature usually exists, which is not recognized by the patient, excepting that perhaps he notices the appetite is not as good, he has a sense of weariness, less inclination to work, less endurance, and the sleep is not restful and is sometimes disturbed by night sweats. The patient gradually becomes worse, and an examination by the physician reveals the presence of tuberculosis, localized usually in the top of one lung.

The onset may be by an attack of pleurisy, from which the patient recovers, but with a cough which persists, or there may be several attacks of pleurisy, with intervals of varying lengths of time, from a month to one or more years.

Third, the first indication to the patient may be a hemorrhage, usually of moderate severity, which is terrifying to him, and takes him to the physician at once. Fourth, it may come on suddenly, as a pneumonia, usually of the catarrhal type, which is attended with a good deal of fever, much cough and a profuse expectoration, and marked disturbance of the general health. These symptoms may ameliorate in time, but the cough persists, with more or less fever, rapid pulse, night sweats, and a profuse expectoration, and the disease usually is well established. Or, fifth, it may occur as a latent process, marked by neurasthenic symptoms only, or by disturbance of the digestive organs, with or without cough, for which the patient seeks the advice of the physician. A persistently rapid pulse occurring in any of the modes of onset is notably suspicious of tuberculosis.

The history of chronic tuberculosis of the lungs, after it has been established, with an onset coming on in one or the other manner described above, is valuable. Usually its



course is progressive, although there may be intervals of amelioration with, however, a general progressiveness towards a worse condition. This is evinced by a gradually increasing emaciation, by a persistent cough, with the expectoration of moderate or even large amounts of mucus or muco-pus, with or without blood; at times marked hemorrhage; a remittent or intermittent type of fever, marked by a hectic condition, with night sweats, impairment of digestion, with a tendency to constipation or frequently a profuse diarrhea.

A few cases doubtless after presenting the symptoms of one or the other modes of onset become well after an indefinite period, the lesion in the lung healing by cicatrization. Doubtless this process of cure is not always complete, and under certain conditions an unhealed focus may be at a later period, the source of a new infection of the lung tissue, with the development of the symptoms as enumerated above.

*The examination of the patient.* The life history of the patient will often be of considerable aid to the physician in making his examination. In some instances it will throw no light whatever upon the illness from which the patient suffers. Nevertheless, it will be of value even if it be a negative quality.

*Inspection.* The examination of the patient should be done in a room sufficiently light to permit of a thorough examination by inspection. The room should be sufficiently warm to permit the removal of the clothing of the patient from the upper half of the body. With young girls and women it may not be wise to remove the entire clothing from the chest, because of the natural embarrassment which a delicate patient will feel. The physician will always have a due regard for the feelings of his patient, and yet he should insist upon removal of the clothing to a degree which will enable him to make the proper examination. In inspection of the patient due attention should be paid to the general nutrition, as evinced by the fullness of the body, and especially of the subcutaneous fat and muscle bulk. The color of the patient is not always

indicative of the condition of the blood. Floridness may be associated with anemia, and pallor may be coincident with normal blood. The color of the skin, however, is important, as well as its texture. People who are apparently predisposed to tuberculosis may present a rough and pimply skin, with the tendency to a greasiness, which gives a characteristic appearance, but it is not necessarily indicative of tuberculosis. On the other hand, many people who suffer from tuberculosis present a fair skin which is clear and transparent, and cosmetically speaking, beautiful. It has been said that people with light or red hair and a blond complexion are susceptible to tuberculosis. The bright clear eyes of the patient with tuberculosis is notable.

Inspection may show the so-called "phthisical" chest. This chest is long, narrow, almost round, with very oblique lower ribs and narrow intercostal spaces. The scapulae stand far apart and are prominent, giving a stooped shoulder appearance. The subclavian regions are often flat. The scapular muscles of the side of the affected lung may be atrophied out of proportion to the other chest muscles. The respiratory movements in such a chest are restricted.

Inspection, on the other hand, may show no abnormality in the nourishment of the patient, and may show a normal chest in its round fullness and unrestricted movements, or the inspection may show a physical condition of any intermediate degree between the extreme "phthisical" and the so-called normal chest.

With the presence of the "phthisical" chest, one becomes impressed with the probability of the presence of tuberculosis, and it is an aid in arriving at knowledge of the truth, but on the other hand, the absence of the phthisical chest is not to be taken as a negative evidence of the presence of tuberculosis.

The inspection should include an examination of the pharynx and of the larynx. The pharynx in tuberculosis often shows evidences of catarrh of the mucous membrane and not infrequently enlargement of the

faucial tonsils, especially in the young adult and in children.

Inspection of the larynx will frequently show, in incipient tuberculosis of the lung, a pallor of the mucous membrane which, while not pathognomonic, is to be considered as significant.

*Palpation.* Palpation will verify the evidence obtained by inspection; will emphasize the form and contour of the chest, and the lack of symmetry of motion in the two sides of the chest, as well as to indicate the changes in the normal voice fremitus. Palpation will verify the existence of abnormal depressions in the chest wall, and a want of local expansion. It will also indicate the points of tenderness over a possible localized pleuritis.

*Mensuration.* Mensuration tells us the size and degree of expansion of the chest. It will confirm the evidences obtained by inspection and palpation of the shape and movements of the two sides of the chest. The circumferential measure should be taken at the level of the nipple with an ordinary tape line or with a tape so fastened with a hinge as to fit in the central groove of the back and indicate by one measurement the entire circumference and the measure of each half of the chest at the same time. It must be remembered that the right chest in right-handed individuals is usually from one-half to one inch larger than the left. The circumferential measurement will indicate the so-called respiratory capacity. The measurement should be taken of the chest while at ordinary rest and at the height of inspiration. The difference between the measurements of extreme inspiration and the chest at rest indicates roughly the lung capacity, and also something of the degree of strength of the respiratory muscles.

In examining 1,000 males, between the ages of 16 and 40, Dr. E. O. Otis found that the average measure of the chest in repose was 34 inches, and at the end of full inspiration 36  $\frac{1}{10}$  inches, giving a respiratory capacity of 2  $\frac{1}{10}$  inches. Examining 750 students of Wellesley, Miss Wood found the measurement of the chest to be 24  $\frac{6}{10}$  inches, and at full inspiration 27  $\frac{2}{10}$

inches, a respiratory capacity of 2  $\frac{6}{10}$  inches. If the respiratory capacity by mensuration is found to be less than two inches, it indicates either a lack of strength of the respiratory muscles or a lessened lung capacity due to a consolidation or compression of the lung, and therefore the possibility of the beginning of incipient tuberculosis.

*Spirometry.* Spirometry is a means of measurement of the quantity of air taken in with each inspiration, and discharged with each expiration. It affords valuable information similar to that of mensuration. A spirometer is not expensive and it may be utilized with ease by the general practitioner. Details of its use cannot be given here. Suffice it to say that the capacity of the lungs, as measured in many individuals, has been found to be from 230 to 240 cubic inches. The lung capacity has a relation to the height of the individual. This has been estimated by E. O. Otis of Boston, to be 3.52 cubic inches of lung capacity for each inch of height of the individual. Thus an individual measuring 72 inches in height should have a lung capacity of about 250 cubic inches.

*Percussion.* Percussion is an important method of examination in early tuberculosis. The local infiltration of the lung may be so small, and the amount of air in the lung may be so little altered in quantity, that there may be no perceptible change in the percussion note over corresponding portions of the two sides of the chest. One should also bear in mind the fact that the clavicular regions of the right side usually give a percussion note which is relatively duller and of higher pitch than the corresponding regions of the left side. In incipient cases percussion should be made carefully over the top of each lung, behind as well as in front. The method of percussion may be direct with the fingers alone, or with the finger of the other hand as the pleximeter, or one may use the instruments, hammer and pleximeter, ordinarily used in percussion. Personally, I prefer the unaided hands. It will be found that if one uses a very light percussion over the chest in

front, and especially just above and just below the clavicles, slight differences of dullness between the two sides are more readily brought out than by a percussion which is too forcible or too deep. Behind, I have found it of advantage to percuss from the spine of the scapula as a center. That is to percuss upward from this point until the upper line of the apex of the lung is reached on both sides. The height to which the lung rises in the neck is variable and the left apex usually rises slightly higher than that of the right. The relative dullness obtained by percussing over the apices of the lungs from behind gives, in many instances, the first percussion sign of infiltration. Tuberculosis may begin at the apex of the lower lobe and spread from that point along the interlobular fissure, upward into the apex and downward into the lower lobe. At its very beginning relative dullness may therefore be found just at the root of the spine of the scapula. In percussing in that region it is well to have the patient sit with the body bent somewhat forward with the scapulae separated, by placing the hands on opposite shoulders.

As the disease progresses, percussion will readily evince dullness over areas of infiltration and consolidation of the lung which are unmistakable. In the beginning of the disease percussion can show relative dullness only, and consequently is a means of diagnosis which can be appreciated only by those who practice it constantly.

*Auscultation.* Auscultation gives one the most information of all of the physical means of exploration in tuberculosis of the lung. By this means one may by care detect the early slight roughening of the vesicular inspiratory note, the slight prolongation of the expiratory, and the moist rale which indicates the early catarrh of infiltration. As the moisture in the smaller tubes varies in amount, the crepitant or subcrepitant rales which may be heard at the end of inspiration in the incipient case may disappear from time to time. The examination should be repeated, that one may be sure of the presence of this important sign. Cough, followed by a deep inspiration, will

not infrequently elicit the moist small rale at the end of inspiration, when it cannot otherwise be heard.

As the case advances, the rough vesicular respiration becomes broncho-vesicular, and then bronchial, with the presence of many moist rales, and as the lung breaks down and cavity formations occur, the bronchial sounds, amphoric and cavernous breathing, broncophony, with mucous gurgles, bronchial rales of all kinds are plainly evidenced.

If one will carefully examine the patient by all of these measures, the earliest case of tuberculosis will usually reveal itself. In those cases in which none of these measures will elicit an abnormal sign, repeated examinations should be made.

In tuberculosis as soon as expectoration occurs, we have a means of its recognition which is of the greatest value; that is, examination of the sputa. The sputa of tubercular patient in its early stage is not characteristic in appearance. It may be almost pure glycerine-like mucus tinged at times with the darkish particles of dirt on inspired air, or by the slight yellowish tinge of more or less pus. From this it may present all of the characteristics of the expectoration with broken-down lung tissue, with sometimes a pint to a quart a day of large nummular masses, yellowish or yellow-green in color, sometimes streaked and mixed with blood. As the macroscopic appearance of the sputa is never absolutely characteristic of tuberculosis, the diagnosis should not be based upon it, but a microscopic examination should be made for the tubercle bacillus.

For this purpose the sputa should be collected in a clean bottle or other vessel, so preserved that it may not contain extraneous material. The mouth of the patient should if possible, be cleansed before the collection is attempted. A small amount of a portion of the sputa which is yellowish in color should be spread in a thin layer on a well-cleaned cover-glass by means of needles or by pressing a small particle of the material between two of the cover-glasses. Square cover-glasses are more easily handled than round ones. Care should be taken to spread the sputa very thinly and in a uniform



layer. Those who have not had much experience in examining the sputa are apt to spread it too thick on the cover-glass. The cover-glass should be allowed to dry in the air, or it may be held at a considerable distance above a Bunsen burner or alcohol lamp and allowed to dry, after which the preparation held with forceps, should be passed three or four times quickly through the flame to fix it. The smear, with the sputa side up, should then be held in a forceps and covered with the staining solution, care being taken to prevent the fluid from running to the under surface of the slip. It should then be held just above the lamp flame until the solution boils for one or two seconds, as shown by the presence of bubbles in the fluid. The excess of stain should be washed off in water and the cover-slip dipped into the decolorizing solution until the color is almost wholly removed. Alternate washing in water and the decolorizer until practically no more color is seen will leave the bacillus of tuberculosis stained. Instead of pouring the stain upon the cover-glass held in a forceps, one may float the cover-slip, sputum side down, on the staining fluid contained in a watch glass. The watch glass may then be held over a flame and heated until bubbles arise in the fluid, after which the cover-glass may be destined as before.

If fuchsin has been used as a stain for the tubercle bacillus, it is well, especially for those who are not accustomed to the work, and also of use in cases where the tubercle bacillus is not plentiful, to use a counterstain of methylene blue. After decolorizing the cover slip the solution of methylene blue, should be poured upon the preparation as before described, or the cover-slip floated upon the blue staining fluid in a watch glass for from one to five minutes, without heat, and then washed in water. The cover-slip so prepared may then be mounted in water, if the preparation is not to be preserved, or it may be dried between two blotting pads and thoroughly dried by holding it at a considerable distance over a flame, and then mounted in balsam or any other one of the permanent mounting media. When so treated, the tubercle bacillus will

be stained red, and all other objects blue. To examine a slide so stained it will be most practical to use a microscope with a 1/12 inch oil immersion lens, and an Abbe condenser, but if one does not possess an instrument with these accessories, a dry lens of 1/7 or 1/8 of an inch may suffice.

A stain for tubercle bacilli which is practical, and which has long been in use and proved its value, is the so-called Ziehl-Nielsen stain. This consists of

Fuchsin, 1 part.

Carbolic acid (crystals,) 5 parts.

Alcohol, 10 parts.

Distilled water, 100 parts.

The fuchsin should be dissolved as nearly as possible in the alcohol, the distilled water, containing the carbolic acid, being slowly added and shaken. This solution will keep indefinitely, and may be used by the method described above.

To decolorize, use a mixture of 3% of hydrochloric acid in 95% alcohol. To decolorize, hold the stained cover-slip in the decolorizing solution until most of the red color is removed; then wash in water, and repeat the immersion in the decolorizing solution, and wash in water until but very little of the red stain can be seen upon a final washing in water.

A counter-stain of a 1% solution of methylene blue may be used after decolorizing the fuchsin stain, as described above, when the preparation will be ready to mount in water, or, after drying, in balsam, or other medium.

One may, in doubtful cases, spread the sputa over the microscope slide, fix it as is usual with cover-slips, and stain. Decolorize in the same method. A large cover-glass may then be placed on the slide, and the microscopic examination be made. This affords the advantage of a relatively large amount of sputa prepared in a short space of time, and enables one to more readily detect the bacillus in those cases where the germs may not be numerous.

In the early stage of tuberculosis the bacillus may be found with considerable difficulty in the sputa. The failure to find it should not be taken as an evidence of its ab-

sence, but repeated examinations of different specimens of the sputa should be made for days, and even weeks, before coming to a decision. When once found, the tubercle bacillus is an absolutely sure and pathognomonic sign of the presence of the disease.

The examination of the sputa is important in every case of tuberculosis of the respiratory tract. In cases which, upon physical examination, show classical evidences of tuberculosis, the sputa should be examined for the bacillus for complete confirmation of the evidence of physical examination.

In those cases in which the physical examination gives uncertain evidence, examination of the sputa is most important. The physician who does not make examinations of the sputa, or who does not have the examinations made by someone competent to do it, is not fulfilling his duty to the patient and the community.

The smegma bacillus and the bacillus of leprosy have the same staining reaction as the tubercle bacillus. The latter is hardly to be mistaken for the tubercle bacillus. The smegma bacillus may contaminate any of the substances which are ordinarily examined for the presence of the tubercle bacillus. The tubercle bacillus will stand the decolorizing fluid made up of absolute alcohol 2 parts, to nitric or hydrochloric acid, one part, while the smegma bacillus is entirely destained by it. In cases in which there is a suspicion of the presence of the smegma bacillus, the destaining should be done with the absolute alcohol-acid solution, as given above. However, one need not ordinarily take into account the presence of other bacteria when the characteristically stained rod of the tubercle bacillus is found in the examination of sputa.

In the more advanced cases when the lung is broken down, elastic lung tissue may be found in the sputa.

The fibers vary much in length and breadth. The contour is double and the ends are usually curled. They may be found exhibiting an alveolar arrangement. When found they indicate a destructive process which is usually tuberculosis but may be gangrene, abscess or infarct of the lung and

occasionally pneumonia and bronchiectasis. Sputa contaminated with particles of animal food may contain elastic fibres.

Their presence is therefore not to be considered characteristic unless they are found arranged in an alveolar form.

A simple method to detect them consists of boiling a portion of the thicker part of the sputa in an equal volume of a ten per cent solution of sodium or potassium hydrate.

When the mixture is reduced to a mass, it should be diluted with three or four times as much water. It may be allowed to settle for twenty-four hours or better still may be centrifuged for a few minutes. The supernatant fluid should be poured off and the sediment examined with a low power.

The above methods of examination will usually prove the presence or absence of tuberculosis. In the event of doubt, other methods of examination may be of some value, or even decide definitely the presence of tuberculosis.

The temperature of the patient should be taken at four hourly intervals during the day and evening, for a considerable period of time, especially in doubtful cases. In incipient cases even an evening febrile temperature will be found.

A blood examination in tuberculosis will show at first often a slight secondary anemia, with no increase and sometimes a decrease in the total number of white cells. The lymphocytes may be relatively increased. As the disease advances, the anemia often becomes often more marked, and especially if the patient suffers from hemorrhages. In the latter stage a marked secondary anemia may occur. When mixed infection occurs in tuberculosis of the lungs, an increase in the white cells may and usually does occur.

The urine of a tubercular patient shows nothing distinctive. Often as the disease advances there may be the presence of albumin and casts, and sometimes blood, and not infrequently the urine will give the Ehrlich diazo-reaction, which is, however, not diagnostic, inasmuch as it is found frequently in typhoid fever, measles, etc.

In doubtful cases, and in those cases where

the method may be used without undue expense or trouble, the X-Ray may be of considerable benefit in the diagnosis. The fluoroscopic screen will often show lessened transparency of the lung, or enlarged bronchial glands, opacities of the pleura, and lessened mobility of the diaphragm, which are considered by those expert in the use of the X-Ray as distinctive of tuberculosis.

*Agglutination.* The agglutination reaction of human serum upon homogeneous cultures of tubercle bacilli advocated by Arloing, Courmont and others as a test for tuberculosis has not been proved of much value. We must wait for further results from the use of the test before it is accepted. Its use is not difficult and it is not dangerous to the patient. The reaction is sometimes positive when tuberculosis is not present and negative when the disease exists.

*Cytodiagnosis.* Cytodiagnosis is applicable only in those cases of tuberculosis involving serous cavities. When an exudate exists the test may be made. As tuberculosis of the lung often begins as a pleurisy, the test is important. If a pleurisy can be diagnosed as a tubercular process, the management of the case may be rationally applied to prevent a further extension of the disease.

Cytodiagnosis is based upon the fact that different tissue cells react to different reagents. It has been proved that acute tubercular exudates contain an excess of lymphocytes while non-tubercular exudates contain an excess of polymorphonuclear neutrophile cells. The fluid found in serous cavities in heart and kidney disease contains many endothelial cells. Without going further into the subject here, it may be definitely stated that the test is of value in determining the bacterial cause of acute exudates.

The method of making the test is as follows: About 15 c. c. of the fluid is defibrinated by adding a few small glass balls to the fluid and shaking them together until all of the fibrin is deposited. The supernatant fluid is then poured off. The remaining fluid containing the fibrin is then spread upon a cover slip and fixed by heat. The preparation is stained with Ehrlich's triacid

stain and a differential count of the white cells is made.

An excess of lymphocytes indicates tuberculosis.

The test is not reliable in chronic inflammations with exudates.

*The Tuberculin Test.* Tuberculin as a test in tuberculosis has its advocates, who probably outnumber those who object to its use. There can be no question that the new tuberculin (T. R.) of Koch, and possibly some of the commercial preparations on the market, have resulted, when used, for diagnostic purposes, as well as when used therapeutically, in producing an acute tubercular process, resulting in either a more serious condition of the patient or in death. It is also a fact that reaction to the tuberculin test will occur in a certain small per centage of individuals who do not have tuberculosis, and the further fact that in other individuals who have tuberculosis there will be occasionally no reaction occur. It is also true that we cannot depend upon the reaction of tuberculin in patients who have a considerable fever.

It is, therefore, a question with a good many whether tuberculin should be used at all, in consequence of

1. Its dangers.

2. Its reaction in a certain number of non-tubercular patients, and 3, its failure to react in an occasional tubercular patient.

We may well ask, are we justified in using a test which may cause the death of an individual, even though that event occur but rarely?

I have used the tuberculin test for years, and apparently without danger, until last year, when its use, with the usual precautions, in a patient who suffered from tubercular peritonitis resulted in the occurrence of an acute disseminated tuberculosis, and the death of the patient in a few days. In another case, occurring very soon after, a colleague used tuberculin as a test in a case which presented all of the clinical phenomena of an Addison's disease. A high temperature supervened, and the patient died soon afterwards.

I feel, therefore, that after this experi-



ence I shall hesitate to again ever use the substance as a test.

Should it be used, certain precautions are necessary. It should not be used in a patient who has a febrile temperature, as such patients may react to tuberculin in the absence of tuberculosis. The temperature of the patient who is to be tested should be taken at two-hourly intervals for forty-eight hours. After this has been done, a preliminary dose of one millegram of tuberculin should be given hypodermically at a time in the day so that the reaction, which usually occurs anywhere from eight to sixteen hours after the injection is given, may be observed. I have usually given it at ten to twelve o'clock at night, the reaction occurring usually somewhere from eight to twelve o'clock the next day. Usually the reaction consists of a general feeling of malaise, with often headache, backache, a feeling of muscular soreness, with pain at the site of injection, a feeling of chilliness, sometimes a chill, with a rise in temperature anywhere from one to four or five degrees F. The pulse usually increases in proportion to the temperature. After twelve to twenty-four hours, or sometimes longer, the patient returns to a condition similar to that of the period before the injection.

If there be no reaction, a dose of two or three millegrams may be given after another forty-eight hours interval, and if this is negative, a third injection of five millegrams may again be given after two days. If there be no reaction to the final dose I consider the test conclusive.

I have in the above not mentioned the fact that tuberculosis of the lungs may occur as an acute process, commonly known as acute pulmonary tuberculosis or galloping consumption. This form of tuberculosis is not as important as the chronic tuberculosis, which has been considered above, for the reason that it usually occurs suddenly, as an acute process, often with many of the symptoms of pneumonia, and is associated with a high fever, rapid respiration, a cough, with a profuse amount of expectoration, frequently containing blood, not infrequently pulmonary hemorrhages, loss of appetite and

rapid emaciation, associated with diarrhea. The disease may result from a primary tubercular focus of the lung or of some other part of the body. Death supervenes, as a rule, in anywhere from two to six weeks. Its danger to the community is chiefly the fact of its existence. If it is recognized, as it may be readily, a proper care of the person of the patient, and a destruction of the sputum, will safeguard the household and the community.

Another form of tuberculosis is usually not recognized, and is, as a rule, less dangerous to the community than the chronic form. This is what is called acute miliary or disseminated tuberculosis. It usually occurs in an individual who has an old tubercular focus in the lung, or peritoneum, kidney, bone, etc. The course of the illness is not unlike that of typhoid fever, inasmuch as the patient suffers usually from a continuous fever, rapid pulse, delirium, sometimes coma, associated with physical evidence of disturbed respiration and circulation. The physical evidences over the chest may be negative, or nothing more than that of bronchitis. The respirations are rapid; the mucous membranes of the lips, mouth, eyes and the finger nails are usually cyanotic, and these disturbances of respiration, circulation and want of oxygenation of the blood are entirely out of proportion to the physical signs present in the case.

I shall not attempt a differential diagnosis of pulmonary tuberculosis. It is true that it may be confounded with pneumonia, chronic bronchitis, bronchiectasis, abscess of lung, gangrene of the lung, la grippe of the respiratory passages, etc. A satisfactory differential diagnosis would entail a long description of these various diseases which would occupy much space and more time than can be allotted to this paper. Besides, if the physician will make a thorough examination of the patient and utilize every aid which experience and modern methods afford, he may arrive at a diagnosis directly. In my opinion it is not so much a want of knowledge or a dearth of instruments of precision, which permits so many cases of beginning tuberculosis to remain undis-

covered as it is the lamentable indifference or laziness of the physician in examining his patients.

If this symposium will arouse the interest of the medical profession and the people for whom they care and make them more alert in the detection of the disease, a wonderful good will have been accomplished.

### THE DUTY OF THE STATE IN RESTRICTING TUBERCULOSIS.\*

BY HAROLD N. MOYER, M. D.

With an increasing recognition of the infectious nature of tuberculosis has come a tendency to urge legislation that should restrict the spread of the disease by quarantining the consumptive. The educational effect of this propaganda is apparent in certain legislative enactments which have tended to impose burdensome restrictions upon the consumptive and his friends. In certain communities to which consumptives commonly resort, something like a panic has developed due to the fear of contagion. Teaching of this kind is pernicious in the extreme and will ultimately fail of its aim. A shotgun quarantine and a most rigid segregation would not materially restrict the spread of tuberculosis. Such a view of tuberculosis does not express the underlying factors by which it is propagated. It does not recognize that tuberculosis is a house and factory bred disease, and while the element of personal contagion is present, it is by no means the dominating factor. The most important lesson that recent years have taught in the study of tuberculosis is that individual resistance is the important factor in preventing its spread. Large numbers of autopsies show that a very large percentage of those who die, have at one time in their lives been infected with tuberculosis and have recovered. This shows that the element of exposure is almost universal, and that no matter what care an individual may take to avoid personal contact with consumptives, he will almost inevitably acquire the disease. It also shows that the element of vital resistance

is the most important factor in its treatment and care as more than two-thirds of those who get tuberculosis recover spontaneously and never know that they have the disease. The reported cases of personal contagion show that it plays only an insignificant role in the spread of tuberculosis, particularly if we eliminate those cases in which the environment is the same and make proper allowances for lowered family resistance, which is the main factor in what is understood by heredity as applied to tuberculosis. A full recognition of these facts would prevent unnecessary laws restricting the movements of the tuberculous. Such laws are essentially cruel and they create in a community an unnecessary dread of the individual afflicted with the disease and consequently lead to great hardship with no corresponding advantage. It is doubtful if any system of compulsory notification would be of value, particularly if it were coupled with a system of notification by which it would become known that a particular individual was suffering from tuberculosis. A further and very good reason why laws of this kind should not be passed is the doubt which still remains as to exactly how tuberculosis is spread. When the bacillus was first discovered it was a natural conclusion that the expectoration of consumptives dried and pulverized and inhaled by healthy individuals was the means by which the disease was conveyed.

No one has definitely proven that this is the chief method of transmitting the disease, but it was so fascinatingly simple that it at once gained general acceptance. It is still the favorite theory though some very good observers such as Behring believe that almost the sole means of spreading tuberculosis is by ingesting the bacilli with the food. In view of these uncertainties and of the folly of attempting to limit by segregation or other means the movements of the chronic tuberculous, restrictive and compulsory statutes should not be enacted. The work of the state should be limited to the education of the consumptive and his family with the active co-operation of the family physician.

One of the most important problems in the restriction of tuberculosis is the early

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recognition of the individual case. The significance of the early loss of appetite, sleeplessness, slight cough and the general failure of health is not appreciated until abnormal sounds develop in the chest or there is abundant sputum together with fever and night sweats, the unquestioned signs of tuberculosis. When this stage is reached the opportunities for treatment are lessened, and the possibility of arresting the disease is limited. Such an individual for a number of months after this stage is reached becomes an active culture ground for the breeding of the bacilli. Hence from the standpoint of restriction the recognition and cure of the individual case early in the disease is most important. In this way the production of the contagion is limited and the liability of spreading the infection to others is lessened. One of the most important of the early diagnostic signs is the recognition of the presence of the tubercle bacillus in the sputum. It may be safely asserted that a large proportion of the cases of consumption in this state do not have their sputum examined from the beginning of the disease to its end. While it is easy to make a diagnosis of consumption in the late stages without the examination, it is most important that infected cases should be recognized in their incipency. The state through the Board of Health should undertake the examination of sputum. This could be readily done with a trifling expense and would place the state authorities in touch with a large number of cases of tuberculosis. Many physicians are not equipped for examining sputum and even where they are it is a considerable burden to put upon the profession in cases of poor patients who can not afford to pay a proper fee. The state should undertake to examine all sputa forwarded to it by individuals or by the profession. In this way a large number of cases would be brought to the attention of the authorities and an active educational propaganda started. This should include printed instructions, of course through the physician, if one were in attendance, on the nature of tuberculosis, the means by which it is spread, the care that should be exercised to protect others and the importance to those who are exposed to similar sur-

roundings to avoid them and to live more in the fresh air. In addition such a general outline of instruction as would limit the spread of the infection. The effort of the state should be not to supplant the physician where one is in attendance, but to supplement and to strengthen his efforts in prescribing fresh air, food, etc.

State aid in the establishment of sanatoria for consumptives is most important. It is impossible for the state to provide for only a small fraction of the consumptive poor, but the educational value of two or three sanatoria in different parts of the state would be incalculable. It would be an object lesson to the people of the state in the care of such cases; through it they would learn the value of the open air treatment, good hygiene, and nutritious food as well as rest. Fortunately the cost of such sanatoria are not great, as elaborate and expensive buildings are not necessary. A simple though durable construction on the colony plan in which the patients pass the whole time in the open air or as nearly as may be is all that is required. These sanatoria would furnish object lessons to the people of the state on the management of tuberculosis which, after all must be the main reliance in preventing the spread of the disease. The early and prompt restoration of all curable cases is the most important item.

Above all the profession in the rural district should rise to the importance of the occasion and there should be established by physicians throughout the state private sanatoria for the treatment of consumption. All that is required is a suitable site, arrangements for feeding patients and a simple medical equipment. Tents have been demonstrated to be by far the best dwelling places for tuberculous patients and it is possible to have patients dwell in them the entire year, even in a climate as severe as ours.

The state owes something to its dependents confined in asylums, as well as those in prison. The mortality from tuberculosis in public institutions is far too high. Already steps have been taken in certain institutions to obviate the large death rate from this disease. The New York State Hospital for the



Insane on Ward's Island has demonstrated the value of outdoor treatment for the tuberculous insane and steps should at once be instituted to meet the requirements of the institutions in the State of Illinois.

To sum up the duty of the state in relation to tuberculosis at this time is:

(1) The establishment of a state laboratory for the examination of sputum which would be available for both the profession and the citizens of the state. An adjunct to this would be the dissemination of correct ideas on the management of tuberculous cases and the avoidance of infection.

(2) The establishment of one or more sanatoria largely for the educational effect, and not with the hope of caring for any considerable number of consumptives, but to demonstrate that hygienic and home treatment in our climate is successful and practical.

(3) Drastic legislation such as compulsory notification of tuberculosis cases, the quarantine of tuberculosis or other measures which teach that the individual consumptive is a danger to those about him are to be deprecated, and are against the interests, not only of the consumptive himself, but they do not protect his associates.

## THE TREATMENT OF PULMONARY TUBERCULOSIS.\*

BY ROBERT B. PREBLE, M. D., CHICAGO.  
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It is obviously impossible in the brief time suitable for an occasion such as this to enter upon anything like a complete discussion of the treatment of pulmonary tuberculosis. Each case presents its peculiar difficulties and problems for solution and I must therefore be content with an effort to sketch what appear to me as the more essential principles underlying our attempts to assist nature in effecting a cure. Detailed descriptions of the use of any of the thousand and one drugs and methods of treatment which have been and still are advocated must be omitted. These must be sought in

the very extensive literature of this subject. The Index Medicus of 1903 lists something over five hundred articles upon the subject of the treatment of tuberculosis as appearing in the medical journals of the world during the past year. This very number indicates their value.

While not properly a part of a paper upon treatment, the matter of diagnosis is of such paramount importance that a word may be permitted me, even though the subject has been so ably handled by those coming earlier on the program. The first and absolutely necessary essential to successful treatment is an early diagnosis. If this is delayed until a considerable portion of one lung or until distinct changes are manifest in both lungs, the chances of recovery are so slight that only a stay in the inevitable course of events can be hoped for. The earlier the diagnosis is made the greater are the chances of recovery. The all too common error of delay in the diagnosis of pulmonary tuberculosis is due largely to the fact that the profession is unwilling to make the diagnosis during that stage of the disease in which only a probable diagnosis can be made. This unwillingness is very natural for a diagnosis of consumption carries terror to the heart of the patient and friends and the treatment requires such a radical change of habits and manner of living, that a doctor hesitates to take the responsibility of such action unless he is certain of his diagnosis. An absolutely certain diagnosis rests upon the demonstration of the tubercle bacilli. Yet a very large percentage of the cases can be diagnosed with a high degree of certainty before the bacilli appear, and experience has taught us that the period during which the most can be accomplished is the pre-bacillary stage. When one compares the number of cases of tuberculosis, active or cured, found on the autopsy table, with the number of cases found in practice, it becomes at once manifest that we are too unwilling to make this diagnosis. I believe that whenever there are reasonable grounds for suspecting a pulmonary tuberculosis, the patient rather than the disease should be given the benefit of the doubt. The patient should be treated as if

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the diagnosis of tuberculosis were certain and such treatment should be continued until it becomes manifest that the diagnosis is wrong or until the disease is cured.

The adoption of such a guiding principle in doubtful cases will lead one into a certain percentage of errors. It has lead me to make a probable diagnosis of tuberculosis in cases which by their later course proved to be some other form of pulmonary infection, but I have never yet regretted the error.

I believe that it can be laid down as a general principle that whenever any condition requires for successful treatment the early employment of certain definite means, such means should be employed whenever a reasonable diagnosis can be made. The diphtheria antitoxin should not be withheld until the diagnosis is proven by the demonstration of the bacilli. The excision of a suspicious tumor should not be delayed until the anatomical diagnosis is certain. So too the treatment of a suspicious pulmonary infection should not be delayed until the nature of the infection is proven by the demonstration of the tubercle bacilli. In their struggle for existence, give the patient rather than the disease the benefit of the doubt and render your aid too early rather than too late.

Nothing truer has ever been written in regard to the treatment of tuberculosis than this quotation from Cornet "The physician can accomplish nothing without the co-operation of the patient." But the physician has no right to expect this co-operation unless he is perfectly frank with the patient. No one can reasonably be expected to alter his manner of living for months or years and subject himself to the restrictions and privations necessary for a recovery from tuberculosis because of some euphonistic diagnosis such as bronchitis or catarrh of the lungs. If a tuberculosis exists say so, not brutally but unequivocally, and be glad that at the same time you can assure the patient of reasonable prospects of recovery providing he gives his hearty and earnest co-operation, not for a few weeks but for months and years if necessary.

Moreover it is impossible for the physi-

cian to fulfill his higher and broader duty, his duty to the race, without the conscientious and intelligent assistance of the patient. Each case of tuberculosis is a potential center of radiation from which other cases may arise and the doctor's highest mission is to prevent this. Fortunately there is no conflict between the doctor's duty to his patient and that to mankind. It is not necessary to isolate the patient in institutes for this purpose nor should the patient look upon himself as a source of unavoidable danger to his friends. Contact with tubercular patients can be safely continued for years, providing only that the sputum is properly disposed of. It is not necessary to here discuss the numerous methods of disposal of the sputum which have been devised, but I wish to draw renewed attention to the fact that sputum sprayed from mouth and nose when sneezing or coughing is perhaps of even greater danger than that expectorated into cup or cloth. This should be explained to the patient and the mouth and nose should be carefully covered whenever the patient sneezes or coughs.

It is perfectly evident that no patient will properly destroy his sputum unless the reasons for such trouble are explained to him and such explanation must be preceded by a frank statement of the nature of his disease. The necessity of the proper disposal of the sputum is now admitted by all and no doubt were every case of tuberculosis recognized as soon as the tubercle bacilli appear in the sputum and every bit of sputum properly destroyed, tuberculosis would soon disappear from the world. The impossibility of this ideal is no excuse for not doing what we can.

In taking up the treatment of this disease we should keep clearly before us the limits of possibility in order that we may not attempt the impossible. I believe fully that the drug has not yet been found which has any direct influence upon the bacilli and that all efforts to directly destroy the bacilli destroy the patient, in other words, I am convinced that all of the antiseptics which have been used with this idea in mind and I do not recall one which has not been used

for this purpose, do more harm than good. I do not consider that efforts to discover such a drug are absolutely hopeless, but it appears to me more likely that something may be found which will neutralize the toxins, as the diphtheria anti-toxine does the toxine of the diphtheria bacillus, and thus enable the host to resist the influences of the unwelcome guest. It also appeals to me as likely that such a body when found will be a biological product of either the human or bovine variety of the tubercle bacillus. There have been and still are in use a number of these bodies but even after the passage of years no one of them has been able to establish itself in the confidence of the profession. Because of the chronic course of this disease any method must be slow in its establishment, but sufficient time has elapsed to try and find wanting a considerable number of these biological products. Others are still being employed and some one of them may prove to be the solution of this great problem.

One of the most conspicuous of these biological products still under trial is the tuberculine which in the hands of some is yielding satisfactory results. I cannot do better than quote the conclusion of Pottenger, based upon reports collected from literature and by personal letters from all over the world, covering 589 cases treated during the early stage of the disease with 84% of apparent cures.

There is scarcely a drug in the pharmacopea, scarcely a method, physical, electrical, hydropathic or mechanical which has not been tried again and again in the treatment of pulmonary tuberculosis and yet out of all this careful and conscientious effort no drug or method has emerged triumphant. The only thing upon which all are now agreed is that the patient must be supplied with all the necessities of life in liberal quantities and of the best qualities. That the energies of his body must be conserved and strengthened in every way, in order that the healing power inherent in us all may bring about a cure. Drugs and other therapeutic means are to be employed to combat individual

symptoms as they arise, but the disease itself must be left to nature.

This would seem to be but small return for all our work but it is in reality much. We have learned the cause of the disease. We know much, although not yet all, of the methods by which the disease is spread and can teach the people how to protect themselves. We have fulfilled our highest function, the discovery of methods of prevention. We have also learned the importance of pure air and sufficient good food.

The first and most essential thing is to supply the patient with good pure air. I believe that when it is possible the patient should be removed to some one of the health resorts where the climatic conditions have proven favorable to these cases but unfortunately a very large percentage of tuberculous patients are not able to stand the expense of such a change. One of the most important new facts in the treatment of this disease is that the patient can be supplied at home with the necessary air. Nothing was more hopeless than these cases so long as it was believed that a change of climate was absolutely essential. We realize now that much can be done in the way of supplying an abundance of air even in so crowded and otherwise undesirable a place as Chicago. If it can be done there it can be done anywhere. This is not possible in all parts of the city, but there are fortunately many places, available to those of even the slenderest means, where an abundance of fresh air can be supplied. There are many outlying districts, easily reached by a single car fare, where the necessary open space can be obtained, and if the family refuses to remove to such a neighborhood and persists in remaining in a crowded, ill ventilated flat the case is practically hopeless.

The family should take either some flat or house where there is a back yard in which a tent, or still better, a board shack, may be erected for the patient. Such a shack can be built at very small expense. It should be so proportioned as to contain about 1000 cubic feet of space and should be built of unmatched boards so as to provide an



abundance of ventilation, even when the weather is such as to require the closure of most or all of the windows. The floor should be raised from the ground sufficiently to secure dryness. The sides should be enclosed for about four feet from the floor. Above this line the walls should be of windows, arranged in such a way that they swing out from hinges at the top. The advantages of the arrangement of the windows are that they are inexpensive and can all be open at once even in case of rain. Opening outward they serve as a canopy and prevent the rain beating in, in a way which sliding windows do not. The roof should be rain proof.

In such a building, when the windows are open, the patient is practically out of doors and yet can be easily protected from rain and yet can be easily protected from rain and if necessary from direct draught. Further-tomed to the exposure, if that is necessary, and there is no doubt that the doctor will often meet with opposition from the family which can only gradually be overcome as the improving condition of the patient allays the fears and traditional opposition which many people show to an abundance of air.

The furnishing of this house should be of the simplest. A rug by the bed side, a table, a chair or two and the bed. The bed should be a simple iron bed, with comfortable mattress and springs. The covering should suit the temperature and be so arranged as to prevent the patient becoming uncovered during sleep. A sleeping bag or some similar device may be employed for this purpose. The night clothing should be flannel, certainly so if the patient is sweating at night.

It is obviously useless to attempt to heat such a structure as the one suggested and usually the patient will require nothing more than an abundance of clothing. Even in the coldest weather, nothing more than a hot water bag is required. The patient should look upon this house as his home and here he should spend his nights and those portions of the day which are spent indoors.

The plan as outlined above is merely a suggestion, the details must be varied to suit the circumstances of each case. It may,

for example, seem best to keep the patient upon the large rear porch of a flat building or upon the roof of the house. In other cases it will be necessary to use a room in the house although this should be avoided if possible. The essential thing is to supply the largest possible amount of the best possible air.

The next important question is that of proper food in sufficient amounts. Because of the great variety of individual tastes and preferences, of the frequency with which we find more or less complete failure of appetite and the great differences in the digestive powers of the different patients it is difficult to lay out any general scheme. Here even more than with the question of air supply it is necessary to individualize. Each patient should be a subject of special study. The patient should take as much food as he can digest and usually this is more than the appetite demands. The food should be varied in character, simply prepared and attractively served. Due attention should be paid to supplying the various food elements but the albumenoids and fats are best supplied in rather larger proportions than in the dietary of a normal individual. Because of the usually feeble appetite, the food is best served at frequent intervals, for example, the three usual meals and a lunch in the middle of the forenoon, about four in the afternoon and again before retiring. The amount taken each time must be varied to suit the circumstances but with patience the amount can be gradually increased until the total in each twenty-four hours is satisfactory. Care must be taken not to overdo the matter of feeding and the gastro intestinal tract must be watched for evidences of indigestion and the faeces should be examined at intervals for undigested food particles. It is manifestly both useless and harmful to put into the digestive tract material in quantities or of qualities which cannot be handled. The directions given to the patient should be very definite and specific. So much of this, so much of that, et cetera, and at such and such fixed hours. Both patient and doctor should realize that these directions will often need changing

from time to time, and the doctor should see the patient at frequent intervals to see that all is going well with the digestive organs and that the food supply is sufficient and of proper character. The proper feeding of these cases is the most difficult problem of all and requires more patience and intelligence than all else combined.

Drugs and other methods of treatment are often required to stimulate the appetite or to aid digestion, but any discussion of these would lead too far and would be inappropriate to a quasi popular article such as this.

A third question of importance is that of exercise. What patients should exercise, how much and in what ways? It may be laid down as a general rule that cases of tuberculosis with a temperature should not exercise. When the temperature disappears, exercises should be employed, but the amount and character should be adapted to each case and varied from time to time as the case requires. As a general rule the exercise should be mild and for short periods and always in the open air. Patient should always stop well before any exhaustion.

In the handling of all disease against which we have no specific, the use of drugs is confined to the relief of symptoms. The symptoms which may appear for treatment in the course of tuberculosis are so numerous and the methods of handling are so diverse that it has seemed best to avoid any discussion of them with the exception of the most common of these. First among them may be mentioned the fever. Numerous authorities advise the use of antipyretic drugs, but I believe that here as with other prolonged infections, they should not be used. We should rely rather upon hydrotherapeutic measures, which are easily applied, simple, effective and harmless.

Cough is not usually sufficiently troublesome to require medication, but if it is, the creasote or guaiacol, either with or without a sedative, will prove most generally satisfactory. Sweating may require atropine in very small doses, but many cases are markedly benefited by the use of salt baths.

A wide variety of tonic preparations are useful and consist generally of varying com-

binations of iron, arsenic, quinine, strychnia, phosphates of various sorts. Cod liver oil, so commonly employed, is of value, but should be regarded rather as a food than as a drug, and it is only as a food that it accomplishes anything.

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## THE ANNUAL ECONOMIC LOSS TO ILLINOIS FROM TUBERCULOSIS.\*

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BY HOMER M. THOMAS, A. M., M. D., CHICAGO.

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It is evident that our consideration of this topic must be more or less conjectural. From the very nature of this subject any conclusion reached must be more theoretic than demonstrable. Scientific accuracy of statement is not possible. It therefore follows that the conclusions reached in this paper are not susceptible of scientific demonstration, but must rest for their acceptance upon the effort that has been made to avoid any extravagant conclusions. Every step made in the compilation which is to follow has been most carefully considered, both from the standpoint of practical as well as theoretic data, and is therefore presented in the belief that the totals reached are in every way conservative, and even much below the actual economic loss sustained to Illinois from tuberculosis.

Through the untiring efforts of statistical experts employed by the State Board of Health, it is possible to present for the first time, scientifically accurate data as to the total number of deaths from pulmonary tuberculosis in Illinois for the years 1902-1903. These totals are as follows. For 1902 the number of deaths from all form of tuberculosis in Illinois was 6,895. The total number of deaths from pulmonary tuberculosis in Illinois for 1902 were 6,011. The total number of deaths from all forms of tuberculosis in Illinois for the year 1903 were 7,026. The total number of deaths from pulmonary tuberculosis in 1903 was 6,066. Again the total number of deaths from other forms of tuberculosis in Illinois for the year 1902 were 884. The total number of deaths from

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\*Read at the 54th Annual Meeting, May 17, 1904.

other forms of tuberculosis in Illinois for the year 1903 were 960.

The mortality from pulmonary tuberculosis by the month for the year 1902-1903 is as follows:

	Jan.	Feb.	Mar.	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1902....	619	676	672	633	602	585	544	512	522	523	479	499
1903....	642	626	696	641	634	579	553	529	504	561	507	551

Computed for the death certificates as issued for the year 1903 the average duration of illness was—1 year, 5 months, 20 days. The average age of all those dying from pulmonary tuberculosis was 34 years, 10 months, 28 days. It is of interest also to note the number of deaths which occurred at the stated age periods.

	1 month to 1 year.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.
1902.....	161	210	111	143	549	1,974	1,535	967
1903.....	192	234	107	149	561	1,987	1,497	1,010

	50 to 60.	60 to 70.	70 to 80.	80 to 90.	Over 90 yrs.	Age not stated.
1902.....	566	429	178	29	1	49
1903.....	645	337	202	29	6	39

The deaths due to tuberculosis (all forms) in—

	1902	1903
Males.....	3,621	3,660
Females.....	3,274	3,366

Percentage of total mortality due to tuberculosis—

	1902	1903
1902.....	11.27	
1903.....		11.51

Let us now attempt to estimate the average cost of living as a basis for computation of the expense of raising a child up to fifteen years of age. As to the cost of living, the Daily News Almanac for 1904 on Page 348, being a tabulation from the November 1903 Bulletin of Labor shows the average cost of food in a family of five persons. This of course varies with the relative cost of various supplies of different years, as well as in different sections of the country.

It is not far from \$340 per annum. I find the tabulation taken from Vol. 2, Report of the U. S. Commissioners of Labor, (Carroll D. Wright) Page 1986-1993, showing that in Massachusetts, in a family of two, with three children, the total expenditure is divided as follows:

Food.....	46%
Clothing, rent, fuel, lighting.....	36%
Other purposes.....	18%

Using these proportions with an estimate from the other table, a family of five persons would expend—

For food.....	46% or \$340
For clothing, etc.....	36% or 246
For other purposes.....	18% or 132
Being a total of.....	\$736

This would give an average of \$147.00 annually for each member of the family. In order to be very conservative in our estimate I figure that it will cost at least \$2.00 a week to raise a child until it reaches the age of fifteen years. Based upon this estimate it would cost \$1,500 to rear a child up to fifteen years of age. Assuming that up to twenty years of age no loss is involved, beyond the cost of bringing up those who have died at the rate of \$100 a year for the first fifteen years of life, the deaths at those ages represent a loss of about \$1,187,800.00. Assuming that for those living and diseased between the ages of twenty and sixty, about 200,000, the impaired condition represents a loss of earning and saving capacity averaging \$150 for the current year, the total loss aggregating \$30,000,000.00. Assuming that for those dying between the ages of 20 and 60 the loss of future savings may be estimated as equivalent to a present value of \$1,000.00 for each person, these deaths 5,139 represent a loss of \$5,139,000.00. Assuming that for those above the ages of 60 or not classified no pecuniary loss is involved, beyond the extra expense of caring for them in sickness, estimated at about \$50 per annum, about 4,500 cases living, we have an extra expense of \$225,000.00. If the different assumptions are not extravagant, and it does not appear possible for them to be so, they indicate a total annual waste by reason of tuberculosis of \$36,551,800.00.

With the recent annual death rate in Illi-



nois from tuberculosis of 7,026 deaths, they would probably represent a total of over 300,000 living sufferers from the disease at the present time. This seems a reasonable estimate in view of the proportion of deaths. The deaths from tuberculosis are 11% of the deaths from all causes. Estimating 300,000 consumptives in the State at the present time is on the basis of only about 6% of the entire population of the State, 5,000,000 people.

From some recent estimates, I assume that men employed in ordinary occupation involving no unusual strain or hazard, tending to shorten their lives, begin effective service at the age of 20 and retire at about 60 to 70, say on the average 65, completing an effective service of about 45 years.

Assuming that such a man is earning \$500 a year of which one-half is necessary personal expenses, the balance \$250 per annum accruing to his family; in case of his death his family would lose his income of \$250 which treated as an annuity upon his life, capitalized at 3½% at the date of his death would represent a loss, should he die at the age of 20, \$4,900.00.

Should he die at the age of 30, of \$4,377

Should he die at the age of 40, of 3,620

Should he die at the age of 50, of 2,535

An income of \$2,000 of which \$1,000 accrues to the family would represent a loss

In case of death at age of 20, of \$19,600

In case of death at age of 30, of 17,510

In case of death at age of 40, of 14,480

In case of death at age of 50, of 10,140

Possibly it would be more accurate to regard the probable term of service as having been reduced by the disease, say one-half rather than cut off entirely. In that case the loss to the family would be represented rather by the income lost during the later half of the term, but this would be a loss in every case acquiring the disease, rather than at the time of death. Pecuniary loss in the two cases above cited would be about as follows:

Age 20 on \$250, \$1,330; on \$1,000, \$5420

Age 30 on 250, 1,372; on 1,000, 5,490

Age 40 on 250, 1,305; on 1,000, 5,220

Age 50 on 250, 1,057; on 1,000, 4,230

In the more hazardous or more arduous occupations where the strain is great and the term of service thereby materially shortened, there is less difference against the disease; there might be cases in which there is little to choose between the effects of the occupation and the disease.

In some cases the community brings up the child, in others the family or both contribute. Yet the investment is not selfish, for those contributing rarely receive the direct return; the child is trained for general usefulness, from which the community or others than the contributors receive benefits, so the loss is properly that of the community.

Any data based on general statistics should be modified as suggested above by considering the effect of the disease in shortening the period of efficiency. Damage in case of death or disability caused by accident may be fairly measured by the immediate loss of income for the average term of efficiency. Tuberculosis shortens such terms but does not in all cases produce immediate disability. Thus assuming that from the time of incurring the disease, the term of efficiency is shortened one-half, the average damage might be ascertained by some such method as suggested above, but this is apportionable among all who incur the disease rather than among those only who die; it measures the loss of efficiency in the entire group.

It is a grewsome task to attempt to reduce down to a cold calculating basis of dollars alone the value of a human life. Nor can we estimate economically only in the most general way, the value to the State of any or all the lives lost from tuberculosis.

The possibilities for good or evil of any life can never be estimated until that life has closed its career. This, however, we do know, that life is the final product of years of preparation and growth. Being the last it is the most sacred, that which is the most sacred should receive the greatest protection.

The State represents the Sovereignty of the people. It is typified through its legislature, its Senate and its Governor. Through legal enactment there is conserved to the

people the best environment for their mental, moral and physical welfare. As in mental growth we have our vast system of public schools, extensive libraries and famous universities. The moral uplifting of our people is accomplished through the agencies of our churches and vast philanthropic movements. We aim to protect the physical being from danger and disease by wise enactments against our water pollution, impure air, and elaborate quarantine against the invasion of epidemic diseases.

Since we look to the State for protection of our mental, moral, and physical well being, we must be increasingly gratified that the numerous and wide spread efforts cannot be computed in figures. They can only be most generally estimated as to the relative value of each life rescued from the ravages of the wide spread disease.

It at once becomes self evident that the economic duty of the State lies in the direction of so legislating that danger from infection of dried tubercle bacilli is reduced to a minimum.

It is absurd to suppose that we can through legislation, or any other active government process stamp out the existence of tubercle bacilli in our State. They have existed from time immemorial and doubtless will continue to do so, but the danger that lurks in the dried tubercle bacilli to the public health is at once so potent and fruitful as a source of spreading the ravages of this disease, that it becomes an economic necessity for our State, as far as possible, to prevent the further contamination of public health from dried tubercle bacilli.

The victims of tuberculosis are mostly of the active working age, their deaths coming at the time of the period of their greatest usefulness to the State, represents the largest amount of economic loss. These deaths are injuring society in a most vital way. Men and women are taken from us at the zenith of their greatest powers for usefulness and activity. It is estimated that thirty-five per cent of the people who die from tuberculosis are from 15 to 34 years of age and that 20% are from 35 to 45 years of age. Since such is the case, and the economic loss so great

and so evident, it follows that we simply cannot afford to allow our State to be devastated by the every day dangers from a disease at once so general and fatal. We must fight tuberculosis, aim to check its ravages, and finally bring about its practical eradication. The necessity for protection of our people against such a disease becomes more and more evident. We do not insist that the paramount duty of the State is the care of its sick, but we must bear in mind that to take care of those suffering from tuberculosis is of itself an economic as well as philanthropic measure. The State generously and faithfully cares for the deaf, dumb, those of feeble mind, and insane, and others unfortunately diseased, but at present goes no farther than the care of these. At present no provision is made for the care of the tuberculous, whose ailments are every day an element of danger to the health of the people of the whole commonwealth. As a result of the deaths from consumption each year the State at once loses the valuable products and activities of thousands of lives. With these lives the State has a direct money interest.

We know that 60% of the living people are, or have been infected with consumption; that it is infectious and the germs are developed by dampness, impure air, bad food, close contact, as in schools, tenements, penitentiaries, etc. This being the case, it would seem that it is part of the State's business to give freely of its money to the poor, to the Boards of Health, that the sick poor may be properly housed, have plenty of fresh air and sunlight; or if that is not feasible, provide sanatoria or isolation hospitals that the patients may have the best of care and can be removed from the danger of spreading tubercular infection.

Our State recognizes pulmonary tuberculosis as communicable. No laws have been made to prevent the spread of tuberculosis, but steps have been taken and laws created to prevent the spread of tuberculosis among cattle. Is it more essential to provide against the spread of tuberculosis in cattle than among human beings?

At the present time there are laws enacted

and stringently enforced prescribing the number of cattle that shall be placed in railroad cattle cars. This is a beautiful State care for the rights and comforts of the helpless dumb brutes. In Chicago no such considerate State care is exercised for the protection and sanitary welfare of human beings. A Chicago street car will comfortably seat 32 persons and allow easy standing room for ten persons. It is not infrequently the case, that the same car will transport from 60 to 75 persons. Think of the possibilities of tubercular infection from such a close massing of people as well as the absolute indecency of such crowding. Since human life is made possible through the existence of the vegetable, mineral, and animal creation, would it not be well for our State authorities to at least exercise the same thoughtful consideration for the physical welfare of human beings, as they now do for those of the dumb creation?

Consumption costs the State an annual loss of thousands of lives. Many of these lives can be saved if placed in hospitals or sanatoria. In view of the excessive mortality from this disease and in order that this may be markedly diminished it is a decided economic advantage for the State to maintain hospitals for its consumptive poor. Some sanatoria claim 70% of cases cured when the patients are admitted to treatment in the earlier stages. This estimate is probably correct. Incipient tuberculosis is one of the diseases most easily cured. It is fair to estimate that under proper treatment in sanatoria 50 to 75% of the consumptive patients in the earlier stages would be cured. With 7,026 deaths from tuberculosis in Illinois for the year 1903, if we can save through the maintenance of sanatoria by the State 50% instead of 7,026 deaths there would be but 3,513 deaths. Estimating the annual economic loss to the State from tuberculosis at \$36,000,000.00 or at the rate of at least \$100,000.00 a day, sanatoria would save to the State annually at least \$18,000,000.00.

Is it not therefore wise for the State through the erection of sanatoria to annually effect a saving of this vast sum? Viewed

strictly from a standpoint of the annual economic loss, and considered wholly from its financial aspect, and laying aside all humanitarian and philanthropic considerations our State is justified in proceeding to assume the care of its consumptive poor. It is not to be expected that sanatoria will abolish consumption. The spread of contagious diseases through quarantine is not wholly prevented, and yet we continue to quarantine. The establishment of sanatoria would not only be of great economic value to the State, but would through their sanitary environments as well as educational benefit, be of great and lasting value to our State. Illinois, the State of vast industrial activity, tremendous agricultural resources and comprehensive educational institutions; the home of great Statesmen, scientists and philanthropists, must be freed from the blight and devastation of tuberculosis. Science has clearly pointed the way for the accomplishments of this end. Let us not be blind to, or negligent of our duty. Let us each and all do our share that in the end tuberculosis may forever be banished from our midst.

#### MORTALITY FROM TUBERCULOSIS IN ILLINOIS FOR THE YEARS 1902 AND 1903.\*

BY GEORGE W. WEBSTER, M. D., CHICAGO.  
President Illinois State Board of Health.

Reliable mortality statistics are the foundation of preventive medicine. For the first time in the history of this State it becomes possible to present such statistics for the years 1902 and 1903 under the law—making it compulsory for physicians to report all births and deaths.

These statistics were compiled in the office of the State Board of Health, from the original death certificates. Table No. 1 shows the number of deaths from the principal causes during the year 1902, the per centage which each is of the total mortality, and the death rate per 100,000 living. Table No. 2 shows the same statistics for 1903.

Drawing No. 1 shows, in a graphic manner

\*Read at the 54th Annual Meeting, May 17, 1904.



the relative mortality from tuberculosis as compared with the other principal causes of death for the year 1903. Table No. 3 is self explanatory. These statistics are made more striking by a reference to drawings No. 2 and No. 3, showing the enormous influence of season upon pneumonia mortality as compared with its influence upon the mortality from tuberculosis.

Drawing No. 4 shows in a striking manner comparatively insignificant mortality from tuberculosis during the first 5 years of life as compared with the very high death rate between 15 and 45 years of age, the productive period of life.

The death rate by counties is very instructive and will, I hope, prove valuable. See diagram on page 360. We would naturally expect the death rate from tuberculosis to be highest in Cook County where the theoretical conditions favorable for its prevalence obtain in marked degree. Nevertheless we find the death rate higher in 1902 in the following counties:

Adams, Alexander, Franklin, Kankakee, Massac, Montgomery, Morgan, Pulaski, St. Clair, Union and White, and in the counties of Kankakee and St. Clair for 1903.

**Principal Causes of Death,  
1902.**

		Percent of total deaths.	Rate per 100,000 population.
Tuberculosis .....	6895	11.26	141.5
Pneumonia .....	6888	11.24	141.1
Heart Disease .....	4491	7.34	92.1
Accidents .....	3175	5.19	65.1
Kidney Disease.....	3169	5.18	65.0
Enteritis Infantile ...	3148	5.14	64.2
Cancer .....	2542	4.14	51.5
Congenital Debility ...	2512	4.10	51.5
Old Age .....	1985	3.24	40.7
Typhoid .....	1882	3.07	38.6
Apoplexy .....	1831	2.99	37.5
Bronchitis .....	1581	2.58	32.4
Meningitis .....	1565	2.56	32.1
Paralysis .....	1236	2.02	25.3
Diphtheria .....	1079	1.76	22.1
Ill Defined .....	1008	1.64	20.6
Liver Diseases .....	871	1.43	17.8
Suicide .....	742	1.21	15.2
Scarlet Fever .....	735	1.20	15.0
Disease of Stomach ..	713	1.16	14.6
Whooping Cough .....	544	.89	11.1
Hernia and Intestinal			
Obstruction .....	483	.77	9.9
Septicemia .....	453	.74	9.3
Influenza .....	417	.68	8.5

Puerperal Sepsis ..	352	.57	7.2
Diabetes .....	342	.56	7.0
Other Puerperal ...	339	.55	6.9
Rheumatism .....	253	.41	5.1
Erysipelas .....	215	.35	4.4
Epilepsy .....	207	.33	4.2
Malaria .....	187	.30	3.9
Measles .....	180	.29	3.6
Small Pox .....	67	.11	1.3

**Principal Causes of Death,  
1903.**

		Percent of total deaths.	Rate per 100,000 population.
Tuberculosis .....	7026	11.51	137.0
Pneumonia .....	6830	11.18	133.2
Disease of the Heart..	3894	6.38	75.94
Traumatisms .....	3772	6.17	73.56
Kidney Disease .....	3616	5.92	70.5
Enteritis Infantile ...	3366	5.51	65.6
Cancer .....	2680	4.39	52.2
Congenital Debility ...	2287	3.74	44.5
Apoplexy .....	1730	2.83	33.7
Typhoid .....	1578	2.58	30.7
Old Age .....	1221	2.00	23.8
Diphtheria .....	1175	1.92	22.9
Enteritis, age ov'r 2 y's	930	1.52	18.1
Bronchitis, acute .....	924	1.51	18.
Suicide .....	774	1.26	15.
Whooping Cough .....	720	1.18	14.0
Influenza .....	691	1.13	12.0
Hernia .....	600	.99	17.0
Measles .....	592	.97	11.5
Cirrhosis of Liver....	544	.89	10.6
Scarlet Fever .....	519	.85	10.1
Bronchitis, chronic ...	505	.82	9.8
Rheumatism .....	486	.79	9.4
Appendicitis .....	471	.77	9.3
Diabetes .....	415	.68	8.0
Puerperal Sepsis .....	383	.63	7.4
Alcoholism .....	328	.54	6.3
Septicemia .....	295	.48	5.7
Peritonitis .....	244	.39	4.7
Malaria .....	231	.38	4.5
Tetanus .....	225	.36	4.3
Erysipelas .....	180	.29	3.5
Pleurisy .....	166	.27	3.2
Small Pox .....	135	.22	2.6

1902.

**COUNTIES.**

	No. of deaths in County.	Total Tubercu- culosis.	Per cent.
Adams .....	985	121	12.28
Alexander .....	347	50	14.36
Bond .....	156	15	9.61
Boone .....	173	15	8.67
Brown .....	95	7	7.36
Bureau .....	497	33	6.64
Calhoun .....	97	9	9.28
Carroll .....	184	20	10.86
Cass .....	178	22	12.36
Champaign .....	528	53	10.04
Christian .....	315	26	8.22
Clark .....	313	70	22.36
Clay .....	183	28	15.30

Clinton .....	205	12	5.88	Schuyler .....	164	17	10.36
Coles .....	356	52	14.60	Scott .....	109	15	13.76
Cook .....	27252	3105	11.39	Shelby .....	282	36	12.41
Crawford .....	276	48	17.39	Stark .....	99	5	5.05
Cumberland .....	204	30	14.71	St. Clair .....	1005	116	11.54
De Kalb .....	310	27	8.71	Stephenson .....	391	26	6.65
De Witt .....	193	17	8.81	razewell .....	280	33	11.97
Douglas .....	235	30	12.76	Union .....	368	39	10.59
Du Page .....	291	21	7.22	Vermilion .....	795	102	12.83
Edgar .....	312	33	10.57	Wabash .....	157	23	14.65
Edwards .....	106	13	12.17	Warren .....	243	25	10.29
Effingham .....	252	30	11.08	Washington .....	218	33	15.14
Fayette .....	299	44	14.71	Wayne .....	258	39	15.12
Ford .....	133	9	6.77	White .....	422	61	14.45
Franklin .....	295	35	11.86	Whiteside .....	398	28	7.03
Fulton .....	461	44	9.54	Will .....	887	106	11.96
Gallatin .....	208	31	14.90	Williamson .....	332	39	11.75
Greene .....	266	32	11.65	Winnebago .....	590	62	10.51
Grundy .....	273	22	8.06	Woodford .....	191	18	9.42
Hamilton .....	239	43	17.99				
Hancock .....	359	25	6.96	State .....	61144	6895	11.27
Hardin .....	88	21	23.84				
Henderson .....	83	3	3.61				
Henry .....	436	35	8.05				
Iroquois .....	332	33	9.94				
Jackson .....	299	26	8.69				
Jasper .....	203	26	12.81				
Jefferson .....	332	42	12.65				
Jersey .....	169	14	8.29				
Jo Daviess .....	204	18	8.82				
Johnson .....	145	22	15.17				
Kane .....	733	70	9.55				
Kankakee .....	557	68	12.21				
Kendall .....	84	10	11.90				
Knox .....	489	61	12.49				
Lake .....	440	52	11.82				
La Salle .....	955	94	9.84				
Lawrence .....	239	40	16.74				
Lee .....	278	32	11.51				
Livingston .....	371	35	9.43				
Logan .....	411	38	9.24				
Macon .....	514	63	12.26				
Macoupin .....	461	39	8.46				
Madison .....	883	66	7.47				
Marion .....	407	51	12.53				
Marshall .....	169	9	5.32				
Mason .....	178	18	10.11				
Massac .....	251	36	14.04				
McDonough .....	302	46	15.23				
McHenry .....	292	25	8.66				
McLean .....	776	66	8.51				
Menard .....	149	17	11.41				
Mercer .....	211	26	12.32				
Monroe .....	149	9	6.04				
Montgomery .....	329	38	11.55				
Morgan .....	542	68	12.56				
Moultrie .....	154	17	11.04				
Ogle .....	210	13	6.19				
Peoria .....	1063	107	10.06				
Perry .....	276	26	9.42				
Platt .....	202	29	14.36				
Pike .....	350	37	10.57				
Pope .....	134	21	15.67				
Pulaski .....	249	47	18.88				
Putnam .....	51	2	3.92				
Randolph .....	306	38	12.42				
Richland .....	148	19	12.84				
Rock Island .....	517	53	11.25				
Saline .....	219	37	16.89				
Sangamon .....	1039	137	13.29				

## COUNTIES.

No. of  
deaths in  
Counties.Total Tuber-  
culosis.

Per cent.

Adams .....	939	104	11.07
Alexander .....	289	52	17.99
Bond .....	145	14	9.62
Boone .....	156	20	12.82
Brown .....	105	19	18.09
Bureau .....	387	23	5.94
Calhoun .....	81	7	8.64
Carroll .....	202	9	4.45
Cass .....	160	21	13.12
Champaign .....	467	40	8.58
Christian .....	309	31	10.03
Clark .....	202	32	15.84
Clay .....	107	12	11.21
Clinton .....	208	16	7.69
Coles .....	336	49	14.58
Cook .....	29701	3523	12.11
Crawford .....	212	31	14.62
Cumberland .....	147	15	10.20
De Kalb .....	308	32	10.39
De Witt .....	172	14	8.14
Douglas .....	158	23	14.55
Du Page .....	322	20	6.21
Edgar .....	300	42	14.00
Edwards .....	93	14	15.05
Effingham .....	219	23	10.50
Fayette .....	253	33	13.04
Ford .....	126	10	7.93
Franklin .....	173	25	14.45
Fulton .....	413	44	10.65
Gallatin .....	160	21	13.12
Greene .....	224	26	11.60
Grundy .....	250	16	6.40
Hamilton .....	105	13	12.38
Hancock .....	302	43	14.21
Hardin .....	72	7	9.72
Henderson .....	71	4	5.63
Henry .....	362	31	8.56
Iroquois .....	293	40	13.65
Jackson .....	285	29	10.17
Jasper .....	171	30	17.54
Jefferson .....	253	35	13.83
Jersey .....	161	23	14.28

Jo Daviess .....	228	24	10.52
Johnson .....	130	15	11.51
Kane .....	1087	105	9.65
Kankakee .....	590	57	9.66
Kendall .....	81	4	4.93
Knox .....	477	43	9.01
Lake .....	487	53	10.88
La Salle .....	844	76	9.00
Lawrence .....	170	28	16.47
Lee .....	266	31	11.28
Livingston .....	326	35	10.73
Logan .....	329	71	21.58
Macon .....	483	46	9.52
Macoupin .....	447	53	11.85
Madison .....	802	72	8.97
Marion .....	338	47	13.93
Marshall .....	131	12	9.16
Mason .....	179	26	14.52
Massac .....	164	31	18.90
McDonough .....	246	31	12.19
McHenry .....	255	19	7.45
McLean .....	673	58	8.61
Menard .....	144	19	13.12
Mercer .....	166	17	10.24
Monroe .....	122	8	6.55
Montgomery .....	288	47	16.35
Morgan .....	517	66	12.76
Moultrie .....	142	20	14.08
Ogle .....	212	19	8.96
Peoria .....	1122	118	10.51
Perry .....	223	20	8.97
Piatt .....	182	19	10.44
Pike .....	305	33	10.82
Pope .....	113	21	18.58
Pulaski .....	135	22	16.29
Putnam .....	48	3	6.25
Randolph .....	348	57	16.37
Richland .....	118	15	12.71
Rock Island .....	596	61	10.23
Saline .....	164	21	12.80
Sangamon .....	968	122	12.60
Schuyler .....	120	20	16.66
Scott .....	66	8	12.12
Shelby .....	271	36	13.21
Stark .....	94	11	11.59
St. Clair .....	1495	140	9.36
Stephenson .....	384	29	7.55
Tazewell .....	347	38	10.95
Union .....	324	40	12.34
Vermilion .....	768	84	10.93
Wabash .....	123	18	14.63
Warren .....	243	29	11.93
Washington .....	187	19	10.16
Winnebago .....	560	60	10.71
Wayne .....	191	38	19.52
White .....	206	37	17.96
Whiteside .....	328	28	8.53
Will .....	858	90	10.48
Williamson .....	240	25	10.41
Woodford .....	187	15	8.02

State .....	61037	7026	11.51
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## Tuberculosis.

1. Total deaths from all forms of Tuberculosis for the year 1902 .....	6895
2. Total deaths from all forms of Tuberculosis in Illinois for the year 1903 .....	7026

3a. Total deaths from Pulmonary Tuberculosis in Illinois for the year 1902 .....	6011
3b. Total deaths from Pulmonary Tuberculosis in Illinois for the year 1903 .....	6066
4a. Total deaths from other forms of Tuberculosis in Illinois for the year 1902 .....	884
4b. Total deaths from other forms of Tuberculosis in Illinois for the year 1903 .....	960
5. Mortality for years 1902 and 1903 by months: Jan. 619-642; Feb. 676-626; Mar. 672-696; Apr. 633-641; May 602-634; June 584-579; July 544-553; Aug. 542-529; Sept. 552-504; Oct. 523-564; Nov. 479-507; Dec. 499-551.	
6. Average duration of illness (December, 1903, certificates only, computed) 1 year, 5 months, 20 days.	
7a. Average age, 34 years, 10 months, 28 days.	
7b. Number of deaths occurring at stated periods:	
0-1 1-5 5-10 10-15 15-20 20-30 30-40 40-50	
1902 161 210 111 143 549 1974 1537 967	
1903 192 234 107 149 561 1987 1497 1010	
50-60 60-70 70-80 80-90 over 90 not stated.	
1902 566 429 178 29 1 40	
1903 645 337 202 29 6 30	
8. Deaths due to Tuberculosis (all forms) 1902, males 3621; females 3274	
9. Deaths due to Tuberculosis (all forms) 1903, males 3660; females 3366	
10. Percentage of total mortality due to Tuberculosis, 1902 .....	11.27
11. Percentage of total mortality due to Tuberculosis, 1903 .....	11.51

## Death Rate in State, By Sections.

1902.

	Rate per 1000.	Percent Tuberculous.	Percent Pneumonia.
Northern Section ....	12.54	10.85	11.65
Northern Sect'n (Cook Co. excluded) .....	10.32	9.61	9.17
Cook County .....	13.84	11.39	12.75
General Section .....	11.33	11.74	8.58
Southern Section .....	11.96	12.50	13.48

## Death Rate in State, By Sections.

1903.

	Rate per 1000.	Percent Tuberculous.	Percent Pneumonia.
Northern Section ....	12.96	11.18	12.49
Northern Sect'n (Cook Co. excluded) .....	8.93	9.51	7.84
Cook County .....	14.61	11.85	14.36
Central Section .....	10.02	12.21	7.47
Southern Section ....	10.27	12.17	9.86



# FACTORS CAUSING CONSUMPTION AND FURTHERING ITS SPREAD —SUGGESTIONS FOR ITS PREVENTION.\*

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The total number of deaths recorded for 1900 in the whole United States was 1,039,094. The total population for 1900 was 75,994,575, including the population of Indian Territory and of the various Indian reservations, but excluding persons on military or naval service abroad. The "registration area," consisting of Connecticut, District of Columbia, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and 153 cities in other states, in all of which area reasonably accurate vital statistics were obtainable, with a population of 28,807,269 showed 512,669 deaths, with a death rate of 17.8 per 1,000. The non-registration area, consisting of the remainder of the United States, with a population of 47,187,306 showed only 526,425 deaths, a number apparently too small; nevertheless analysis of these figures affords an approximately accurate means of getting at the total death rate for the United States, as shown by the following table:

Table 1; Population.

	Whole U. S.	Registration Area.	Non Registration Area.
Cities or towns over 8,000....	24,992,199	21,660,631	3,331,568
Rural districts .....	51,002,376	7,146,638	43,855,738
		28,807,269	47,187,306
	75,994,575		75,994,575

Table 2; Death-rates in the registration area.

	Population.	Total Deaths.	Death Rate.
Cities and towns over 8,000..	21,660,631	402,666	18.6
Rural districts.....	7,146,638	110,003	15.4

Applying these rates to the classified population in the non-registration area of Table 1, assuming the rates in the registration area to apply equally to the non-registration area, table 3 is obtained.

Table 3; Death-rate for the whole United States.

	Population.	Rate.	Total Deaths.
Non-Registration Area:			
Cities and towns over 8,000	3,331,568	18.6 <sup>1</sup>	61,967
Rural districts.....	43,855,738	15.4 <sup>1</sup>	675,378
Add to this Table No. 2:			
Cities and towns over 8,000	21,660,631	18.6	402,666
Rural districts.....	7,146,638	15.4	110,003
Totals.....	75,994,575	16.4 <sup>2</sup>	1,250,014

(1) Assumed.

(2) Estimated.

The total number of deaths in the United States is thus found to be 1,250,014 instead of 1,039,094; and the death-rate for the United States is 16.4 per 1,000.

Adopting the same method of computation we find the total deaths from consumption in the United States to be 119,616 instead of 109,750 as recorded.<sup>3</sup>

Table 4; Deaths from Consumption in the United States.

	Population.	Total deaths	Deaths from consumption	Percentage of deaths from consumption to total d'ths.
Registration Area:				
Cities over 8,000.....	21,660,631	402,666	44,376	11.02
Rural districts .....	7,146,638	110,003	9,586	8.71
Non-Registration Area:				
Cities over 8,000.....	3,331,568	61,967 <sup>1</sup>	6,829 <sup>2</sup>	11.02 <sup>3</sup>
Rural districts.....	43,855,738	675,378 <sup>1</sup>	58,825 <sup>2</sup>	8.71 <sup>1</sup>
Totals .....	75,994,575	1,250,014	119,616	9.57 <sup>2</sup>
Totals, Table 8, Cens's	75,994,575	1,039,094	109,750	10.56

(1) Estimated as in table 3.

(2) Estimated.

(3) It is assumed that the percentage of deaths from consumption is the same in the non-registration area as in the registration area.

From the table it is evident that the death-rate from consumption for the United States, exclusive of other forms of tubercu-

\*Read at the 54th Annual Meeting, May 17, 1904.

losis, is 9.57 per cent of the total number of deaths from all causes combined. It is highly likely that the corrected figures are more nearly accurate than the official ones; though it is cheerfully admitted that it may be quite unfair to assume that the rate of death prevailing in the registration area for 28,807,269 inhabitants will hold good in the non-registration area with 47,187,306 inhabitants.

*Causes of Consumption.* Narrowly speaking, the only cause of consumption is a minute organism which enters the lungs, and by its life brings death. Broadly speaking, certain conditions favor the onset and course of consumption, and careful study and thorough knowledge of these favoring conditions will enable the people to avoid them.

*Sex.* Sex is of influence upon the distribution of consumption. The organism causing the disease selects males in urban population, and females in rural districts, as shown abundantly by the following tables.

Table 5; showing deaths from consumption by sex in the registration area.

	Whole registrat'n area.	Cities only.	Rural districts only.
Total populations.....	28,807,269	21,660,631	7,146,638
Deaths, males.....	29,192	24,635	4,557
Deaths, females.....	24,470	19,741	5,029
Excess, male over f'm'le	4,422	4,894	472

Table 6; showing deaths from consumption by sex in Illinois, for 1902 and 1903.

	Whole State.		Chicago and Cook Co.		Re- mainder of State.	
	1902	1903	1902	1903	1902	1903
Deaths, males, .....	3,149	3,139	1,672	1,837	1,477	1,322
Deaths, females .....	2,862	2,922	1,019	1,170	1,843	1,752
Excess, male over female	287	237	653	667	366	430

The latter table also shows a large increase in deaths from consumption in 1903 in Chicago and Cook county, and a corresponding decrease in the remaining counties of the state. The figures in Table 6 were

1. Excess, female over male.

kindly furnished by the Illinois State Board of Health.

Table 7; showing the number of deaths from consumption in each 1,000 deaths from all causes.

	Whole U. S.	Cities only.	Rural districts only.	Registration Area.	Cities only.	Rural districts only.
Males.....	101.1	115.5	91.4	104.8	118.9	80.1
Females..	119.9	106.1	128.9	100.0	101.4	97.4

Table 7 shows that in the registration area, males suffer most, but that in the whole United States, due to the fact that the rural population is nearly double the urban, females suffer most.

Why do more males die from consumption in cities, and more females in rural districts? The answer would seem to be that in rural districts men live out-of-doors, the women indoors; in cities the reverse is true; more men are kept employed within, while the women are free to be outside at least some portion of the day. It may be objected that in cities women also are largely kept within, as indeed they are. For that reason the discrepancy between deaths by consumption in males and females in cities, (males, 115.5 per 1,000; females, 106.1 per 1,000) is much less than the discrepancy between deaths by consumption in males and females in rural districts (males, 91.4 per 1,000; females, 128.9 per 1,000). The practical lesson is that the farmer's wife and the farmer's daughters should get out of the kitchen occasionally. They should spend as much time out-of-doors as possible, work in the field being vastly more wholesome than work in the house. In cities men should endeavor to find occupations permitting the breathing of an abundance of fresh air. Recreation out-of-doors in the evening is far better than recreation in the theatre, lodge, bowling-alley, or saloon.

*Age.* The relation between consumption and age is a very close one, illustrated by the following table.

Table 8; showing the proportion of deaths from consumption at various ages, to the

total deaths at the same ages, in the United States and in Illinois, for 1900. See diagram on page 367.

	Under 5 yrs	5-9 years	10-14 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55-59 years	60-64 years	65 years and over
United States—														
Total deaths.....	317,532	36,748	24,500	38,109	51,004	48,693	43,837	41,367	41,439	40,201	42,666	43,169	48,478	211,191
Deaths from consumption. ....	4,454	1,287	2,310	9,104	16,031	15,811	12,805	10,833	8,376	6,456	5,405	4,424	3,652	7,949
Proportion due to consumption. .	1.4%	3.50%	9.47%	23.89%	31.43%	32.47%	29.19%	24.42	20.21%	16.06%	12.71%	10.25%	7.58%	3.76%
Illinois—														
Total death .....	18,023	2,385	1,413	2,014	2,705	2,824	2,806	2,942	2,719	2,519	2,655	2,699	2,926	12,599
Deaths from consumption.....	239	70	98	483	928	998	861	738	558	419	364	289	216	525
Proportion due to consumption..	1.33%	2.94%	6.94%	23.98%	34.31%	35.34%	30.68%	25.09	20.53%	16.63%	13.33%	10.67	7.38	4.17%

sexes do not suffer equally at the same age, as indicated by table 9.

Table 9; showing the number of deaths from consumption per each 1,000 deaths from known causes at various ages, in the two sexes,

	Under 5 yrs.	5-9 years.	10-14 years.	15-19 years.	20-24 years.	25-29 years.	30-34 years.	35-39 years.	40-44 years.	45-49 years.	50-54 years.	55-59 years.	60-64 years.	65-69 years.	70-74 years.	75-79 years.	80-84 years.	85 years and over.
Deaths from consumption in each 1,000 deaths in males.....	14.5	29.2	60.9	183.0	275.9	310.9	285.6	248.1	206.6	168.9	137.2	110.8	80.3	62.7	45.8	31.4	18.0	10.9
Deaths from consumption in each 1,000 deaths in females.....	15.9	43.6	131.0	302.6	365.6	361.3	309.6	219.9	206.2	157.5	122.8	97.0	74.0	62.4	46.4	33.6	19.3	9.3

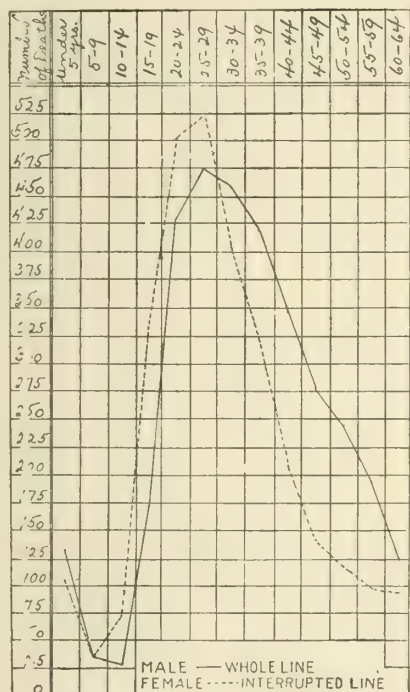
The table demonstrates that the maximum number of deaths from consumption occurs between the ages of 20 and 35 years, about one-third of the total deaths during these ages being from consumption. The two

It will be observed that females, who mature earlier than males suffer earlier from



consumption. This fact is best expressed graphically in the following diagram.

Diagram 1; showing the total deaths by consumption in five-year periods by sex in Illinois, for 1900.



It will be observed that the lines representing deaths in males and females intersect at about the age of 30 years.

Table 10; showing the total deaths from consumption in Illinois, in 10 year periods, for 1902 and 1903. See diagram.

	0-1	1-5	5-10	10-15	15-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	Over 90.	Un-known
Total deaths, 1902.....	161	210	111	143	519	1,974	1,537	967	566	429	178	29	1	40
Total deaths, 1903.....	192	234	107	149	561	1,987	1,497	1,010	645	337	202	29	6	30

Why should young men and women die at the very time when their vitality should be at its maximum? This is a question which may be variously answered. Because of the vigor of the young, unusual demands are made upon them, in both economic and social ways. The young man works excessively hard to get his start, and succeeds unusually early in this country. The young lady endeavors to do her share toward the family support, and goes beyond her strength. Often the dissipation incident to youth is responsible for the appearance of consumption. The young man sows his wild oats and reaps death as his harvest; the black sheep of the family often dies of consumption. The young woman, who works hard all day in kitchen, factory or household, goes frequently to dances and devotes to them the time she ought to spend in sleep and rest. Often the demands of maternity are more than can be borne, and the greater number of deaths occurring in females between the ages of 20 and 30 years are doubtless due to this single cause. The practical conclusion to be reached by all young adults is that plenty of rest, sleep and fresh air are as essential to happiness and existence as food and drink. Young people contemplating marriage should not exhaust each other by long hours of courtship night after night, after the day's work is over. Moreover they should see to it that the one selected for wife or for husband is perfectly sound physically and morally.

Race. Race has a marked influence upon the total death-rate from all causes, as shown by the following table based upon the registration area.

Table 11; influence of race upon the death rate.

	Whites.	Negroes.	Indians.	Chinese.	Japanese
Population....	27,553,800	1,180,546	11,010	48,565	8,348
Total deaths...	475,640	35,710	319	914	86
Rate per 1,000..	17.3	30.2	22.8	18.8	10.3

The low death-rate among the Chinese and Japanese is due to the fact that all representatives of these races are adults, and therefore that the large mortality of child-life does not appear in these statistics.

Table 12; death-rates by age, sex and race.

	Under 1.	1-5 years.	5-14 years.	15-24 years.	25-34 years.	35-44 years.	45-64 years.	65 and over.
Whites—								
Males....	175.9	54.2	4.2	6.2	9.0	12.0	23.5	90.4
Females..	139.8	45.2	4.0	5.6	8.1	10.1	19.5	82.1
Colored—								
Males....	403.9	127.2	9.2	17.4	18.2	21.5	38.6	119.8
Females..	339.7	110.2	10.2	14.4	15.6	20.4	34.6	100.3

The conclusion reached after inspection of these tables is that colored people show a death-rate almost double the death-rate shown by whites.

Table 13; deaths from consumption by race.

1900.	Whites.	Colored.	Indians.	Chinese.
Total deaths, U. S.....	892,092	147,002	4,801	1,150
Deaths from consumption....	87,673	22,077	998	368
Percentage of deaths by consumption.....	9.83	15.02	20.79	31.13

Table 14; total deaths from consumption among whites and blacks by ages, based upon the registration area; year 1900.

	Unknown.	70 years and over.	65-69 years.	60-64 years.	55-59 years.	50-54 years.	45-49 years.	40-44 years.	35-39 years.	30-34 years.	25-29 years.	20-24 years.	15-19 years.	10-14 years.	5-9 years.	Under 5 yrs.
Whites—	1,658	79,376	26,742	24,867	22,733	21,372	20,124	20,334	21,250	21,436	21,436	18,689	11,763	7,666	13,969	141,131
Deaths, all causes.....	111	1,812	1,300	1,604	2,006	2,484	3,048	4,046	5,591	6,797	7,303	6,295	3,117	619	370	1,589
Deaths by consumption.....	6.70	2.28	4.86	6.45	8.82	11.62	15.15	19.90	25.13	30.74	34.07	33.68	26.50	8.07	2.72	1.12
Percentage dying from consumption	206	2,636	1,027	1,288	1,374	1,750	1,795	1,952	2,083	1,955	2,500	2,671	2,671	919	1,076	12,140
Blacks—	18	100	92	110	161	256	349	447	600	667	960	1,021	611	242	159	354
Deaths, all causes.....	8.74	8.96	8.66	8.66	11.72	14.63	19.44	22.90	28.80	34.12	38.40	38.23	36.87	26.33	14.77	2.91
Deaths by consumption.....																
Percentage dying from consumption																

Table 13 demonstrates the greater vulnerability of the Negroes, Indians and Chinese, as compared with whites. The Negroes are found to be one-third more susceptible to consumption, the Indians more than twice

as susceptible, and the Chinese over three times as susceptible as the whites. A study of the deaths from consumption by ages among the whites and blacks shows the greater vulnerability of the latter to lie in the first 20 years of life, as shown in table 14. The practical conclusion is that health officers and inspectors should pay more attention to the young than to the old negro.

The racial influence compiled from the statistics of the registration area alone is even more striking than table 13, based upon the whole United States.

Table 15; death-rate per 100,000 population of each race, from consumption and pneumonia.

Disease.	Whites.	Negroes.	Indians.	Chinese.	Japanese.
Consumption.....	173.5	485.4	506.8	656.8	230.6
Pneumonia.....	184.8	355.3	228.4	282.1	59.9

Why should the colored, the Chinese, the Indians, and the Japanese be more subject to consumption than the whites? Possibly because these races are inherently less able to throw off the disease when once it seeks to gain a foot-hold, this inherent inability being possibly due to an inherited defective immunity. Undoubtedly the real reason is to be found in the poverty and method of living of those other than whites. It is to the financial advantage of the commonwealth as a whole and of each tax-payer within it to safe-guard the health of the colored and yellow races by insisting upon hygienic housing and the prevention of over-crowding. If it is unlawful for an elevator to carry a number beyond that which may be carried with safety, why should it not also be unlawful for a house to lodge more than is permitted safely by its capacity? The method of housing of many of the poor Negroes and Chinese is not to be countenanced, for to a large extent the opportunity for the spread of pulmonary tuberculosis depends upon these races, especially in our large cities. Areas containing large numbers of colored people should demand that

properly ventilated houses be furnished them at reasonable rates, as a measure for the good of the public health.

*Nativity.* In cities especially the influence of Europe is heavy upon us, and in rural districts that influence is not wholly wanting. The following table, showing such influence, is self-evident in itself alone.

Table 16; showing the percentage of deaths from consumption in five-year periods, among various nationalities represented in the United States. Computed from statistics furnished by the registration area for 1900.

	Under 5 yrs.	5-9 years.	10-14 years.	15-19 years.	20-24 years.	25-29 years.	30-34 years.	35-39 years.	40-44 years.	45-49 years.	50-54 years.	55-59 years.	60-64 years.	65-69 years.	70 or over.
Native whites.....	1.13	2.58	7.38	8.06	29.27	36.51	36.09	31.39	28.52	24.79	20.83	11.89	15.28	10.21	8.28
Canadians.....	1.25	2.39	8.06	29.27	36.51	36.09	31.39	28.52	24.79	20.83	11.89	15.28	10.21	8.28	8.28
English and Welsh.	1.06	3.63	6.89	18.87	29.93	28.52	24.79	20.83	11.89	15.28	10.21	8.28	5.07	5.39	23.36
Scottish.....	1.59	6.02	8.82	26.38	36.03	31.21	33.69	27.00	23.32	11.00	13.80	9.12	6.56	5.32	25.83
Irish.....	1.18	3.45	12.04	42.76	44.96	43.73	38.31	31.51	21.71	17.67	13.34	9.01	6.52	4.60	15.00
Scandinavians.....	1.11	4.33	8.06	28.88	33.77	37.33	33.39	28.86	26.95	19.78	16.05	12.38	12.65	1.57	6.92
German.....	1.06	1.80	8.76	24.85	33.31	34.28	31.37	26.05	21.10	15.06	11.90	9.06	5.86	4.55	8.33
French.....	1.99	5.00	...	29.41	41.18	27.14	32.91	28.72	22.86	16.18	9.34	11.72	5.18	2.91	21.48
Italians.....	0.95	3.29	13.24	31.71	25.77	20.54	19.81	13.91	10.54	11.31	7.73	4.15	8.91	1.82	2.21
Hungarians.....	1.21	9.09	21.43	20.00	9.23	28.57	20.59	20.19	18.18	11.03	8.33	6.25	3.33	5.55	2.90
Poles.....	0.63	...	4.54	26.41	53.33	37.50	30.61	29.64	22.64	13.51	6.22	6.09	1.88	1.88	7.78
Russians.....	0.32	2.22	5.13	21.88	23.73	19.62	23.42	14.28	10.42	19.75	7.04	6.45	5.11	11.76	4.23
...	1.11	1.01	6.66	16.06	25.65	24.31	31.16	19.91	20.59	11.36	8.54	7.09	7.39	1.31	3.26



The table illustrates several things: First relatively great susceptibility of the Irish, 45 deaths in every 100, between the ages of 20 and 24 years inclusive, being from consumption; secondly, the susceptibility of the Scandinavians, 37% of their number dying from that disease during the ages of 25 to 29 years inclusive; thirdly, the great susceptibility of the Bohemians, 53 out of every 100 deaths between the ages of 20 and 24 years inclusive being from consumption. The Irish are improvident, taking no thought for the morrow, excelling in poverty and bad housing. The Bohemians drink freely, especially in Chicago, and shut themselves up in their houses, carefully excluding the fresh air, the only thing they can have without paying for it. The Scandinavians literally work themselves to death, and many of them are guilty of neglecting the ventilation of their homes. The Italians, the happy-go-lucky people who spend their time out-of-doors grinding organs or selling bananas in the streets, show as low a percentage from consumption as any foreign nationality. The Poles and Russians are not particularly subject to consumption.

In the last column of table 16 is a statement of the percentage of each nationality living to the age of 70 years. The small percentage of Canadians living the allotted three score years and ten is noteworthy, as is also the longevity of the English, Scotch, Americans, and Germans. The small percentage of Scandinavians reaching 70 years is accounted for by their hard-work and general susceptibility to disease. Interesting is the fact that the Russian Hebrews, the Russians and other Slav races die prematurely early. There seems, however, to be

no relation between tuberculosis and longevity, the Italians being fairly immune to consumption, and yet seldom living to the age of 70 years.

*Occupation.* The influence of occupation upon the incidence of consumption is illustrated by the following tables.

Table 17; showing by classes the proportion of deaths from consumption to the total number of deaths. Based upon the census of 1900.

Class (Registration Area Only.)	Per cent. Engaged.	Total Deaths.	Deaths Consump.	Per cent. due to Consump.
Professional.....	3.6	10,123	1,353	13.36
Clerical and Official.....	7.6	13,703	2,777	20.26
Mercantile and Trading.....	8.9	16,239	2,335	14.38
Public Entertainment.....	1.6	4,343	643	14.81
Personal Service, Police and Military.....	2.7	5,071	954	18.81
Laboring and Servant.....	14.4	47,165	8,571	18.17
Manufacturing and Mechanical Industry.....	32.2	57,031	9,774	17.14
Agriculture, Transportation, and other out-door.....	27.4	123,015	13,782	11.20
Other Occupations.....	1.6	1,457	277	19.01
	100.0	278,147	40,466	14.55

The table demonstrates the fact that work predisposes to consumption, but it is not likely that a proper amount of work properly done in proper surroundings will predispose to tuberculosis. Occupations which take men out-of-doors show the smallest percentage of deaths from consumption, whereas indoor occupations such as clerical and official work give up one-fifth of their total deaths to consumption alone.

The following table is a detailed account of the sub-divisions in each class. Males only are included. The table is computed from figures in the census for 1900.

TABLE 15—Showing the Proportion of Deaths from Consumption to the Total Number of Deaths for Each Occupation.

OCCUPATIONS—MALES.	Total deaths	Deaths, consumption.	Percentage.	Deaths, consumption, per 100,000 workers of same class.
<b>PROFESSIONAL:</b>	10,123	1,353	13.36	182.2
Architects, artists, teachers of art.....	152	74	16.35	183.9
Clergymen.....	2,062	204	9.89	123.5
Engineers and surveyors.....	761	119	15.64	Not stated.
Journalists.....	375	57	11.67	188.1
Lawyers.....	1,508	153	10.15	139.9
Musicians and music teachers.....	597	132	22.11	349.8
Physicians and surgeons.....	2,322	216	9.30	128.8
School teachers.....	1,256	264	21.02	144.0
Others of this class.....	790	134	16.96	Not stated.
<b>CLERICAL AND OFFICIAL:</b>	13,703	2,777	20.26	304.2
Bookkeepers, clerks and copyists.....	7,824	2,175	27.80	398.0
Bankers, brokers and officials.....	1,711	131	7.65	92.1
Collectors, auctioneers and agents.....	2,595	283	10.91	131.2
Others of this class.....	1,573	188	11.95	Not stated.
<b>MERCANTILE AND TRADING:</b>	16,239	2,335	14.38	165.8
Apothecaries, pharmacists, etc.....	800	154	19.25	305.7
Commercial travelers.....	585	67	11.45	Not stated.
Merchants and dealers.....	9,955	1,073	10.68	163.8
Hucksters and peddlers.....	919	185	20.13	250.9
Others of this class.....	3,980	856	21.51	Not stated.
<b>PUBLIC ENTERTAINMENT:</b>	4,343	643	14.81	268.5
Hotel and boarding-house keepers.....	1,626	113	6.95	210.3
Saloon and restaurant keepers, bartenders, liquor dealers.....	2,717	530	19.51	287.6
<b>PERSONAL SERVICE, POLICE AND MILITARY:</b>	5,071	954	18.81	254.8
Barbers and hair-dressers.....	1,371	401	29.25	324.9
Janitors and sextons.....	702	100	14.25	251.4
Policemen, watchmen and detectives.....	1,880	147	9.93	136.7
Soldiers, sailors and marines.....	757	88	11.94	Not stated.
Others of this class.....	721	218	29.82	324.9
<b>LABORING AND SERVANT:</b>	47,165	8,571	18.17	376.8
Laborers (not agricultural).....	44,206	7,736	17.50	370.7
Servants.....	2,959	835	28.22	430.8
<b>MANUFACTURING AND MECHANICAL INDUSTRY:</b>	57,031	9,774	17.14	376.8
Bakers and confectioners.....	1,072	213	19.87	262.1
Blacksmiths.....	3,386	358	10.57	250.1
Boot and shoe makers.....	2,348	311	13.25	212.9
Brewers, distillers and rectifiers.....	346	45	13.01	213.5
Butchers.....	1,620	250	15.43	285.6
Cabinet makers and upholsterers.....	1,046	176	17.32	359.7
Carpenters and joiners.....	8,852	1,177	13.29	231.1
Cigar makers and tobacco workers.....	1,196	315	26.48	474.0
Clock and watch repairers, jewelers, etc.....	475	79	16.63	Not stated.
Compositors, printers and pressmen.....	1,451	191	33.34	435.9
Coopers.....	842	96	11.39	299.5
Engineers and firemen (not locomotive).....	2,868	402	14.02	229.7
Glass blowers and glass workers.....	333	85	25.53	Not stated.
Hat and cap makers.....	263	57	21.67	324.9
Iron and steel workers.....	1,941	361	18.59	256.2
Leather makers.....	363	75	20.66	311.4
Leather workers.....	593	86	14.50	227.3
Machinists.....	2,718	483	17.77	195.9
Marble and stone cutters.....	736	241	32.74	540.5
Masons (brick and stone).....	2,670	381	14.27	293.9
Mill and factory operatives (textile).....	2,172	478	22.01	207.6
Millers (flour and grist).....	687	72	10.48	198.5
Painters, glaziers and varnishers.....	3,641	684	18.78	319.3
Plasterers and whitewashers.....	525	93	17.38	Not stated.
Plumbers and gas and steam fitters.....	883	233	27.97	244.6
Tailors.....	2,143	377	17.59	218.2
Tinners and tinware makers.....	706	129	18.27	365.3
Others of this class.....	11,314	2,026	17.91	Not stated.
<b>AGRICULTURE, TRANSPORTATION AND OTHER OUT-OF-DOOR</b>	123,015	13,782	11.20	147.2
Boatmen and canal men.....	230	31	13.48	256.8
Draymen, hackmen, teamsters, etc.....	1,953	947	19.12	261.4
Farmers, planters and farm laborers.....	96,592	1,310	10.78	111.7
Gardeners, florists, nurserymen and vine growers.....	1,378	132	9.65	186.6
Livery stable keepers and hostlers.....	902	168	18.63	267.5
Lumbermen and raftsmen.....	629	64	10.18	107.1
Miners and quarrymen.....	5,895	574	9.74	120.9
Sailors, pilots, fishermen and oystermen.....	2,867	306	10.68	333.0
Steam railroad employees.....	6,217	697	11.21	129.8
Stock raisers, herders and drovers.....	734	75	9.57	Not stated.
Others of this class.....	2,558	389	15.14	256.8
All other occupations.....	1,457	277	19.01	256.8

Table 19; showing the proportion of deaths from consumption to the total number of deaths, for each occupation in females. U. S. census reports:

Occupation	Total Deaths	Deaths from Consumption	Percentage to Whole	Deaths per 100,000
All occupations	45,401	9,948	21.88	172.8
Musicians and teachers of music	270	87	31.85	Not stated
School teachers	1,890	532	28.15	126.1
Stenographers and type-writers	248	84	33.87	Not stated
Bookkeepers, clerks and copyists	785	267	33.63	198.0
Hotel and boarding house keepers	522	28	5.36	Not stated
Laundresses	2,308	522	22.61	94.1
Nurses and midwives	1,330	176	13.23	109.2
Servants	17,481	3,669	20.98	349.7
Artificial flower and paper-doll makers	26	11	42.31	Not stated
Cigar makers and tobacco workers	163	55	33.71	Not stated
Mill and factory operators (textile)	1,138	356	31.28	144.1
Milliners	461	115	24.95	Not stated
Dress-makers and seamstresses	2,965	787	26.54	130.1
Telegraph and telephone operators	81	31	38.27	265.1
All other occupations	15,718	3,229	20.54	Not stated

The effect of occupation upon the incidence of consumption is clearly seen in tables 18 and 19. Occupations confining workmen cause more cases to develop than do out-of-door occupations. The effects of confinement associated with posture is seen in the large proportion of deaths by consumption in cigarmakers and tobacco workers. Compositors, printers and pressmen work in poorly ventilated lofts very frequently, and are

noted, unfortunately, for intemperance. Bad air and bad whisky are excellent aids for consumption. Glass blowers and glass workmen in this country, and pottery makers in England are prone to consumption because of the effect of sudden changes of temperature and of very high temperatures upon lung-tissue, this being weakened so much that the germs of consumption may enter. Marble and stone cutters are exposed to stone dust and suffer severely. Recently a stone cutter, now dead of consumption, told me that of all his former fellow workmen, he was the sole survivor, the others all having died in their later years of consumption. On the other hand miners of coal and quarrymen do not suffer from consumption, the explanation being that they are picked men breathing sterile dust. As a practical suggestion, each working man or woman should examine the tables of occupation here collaborated, and learn the amount of possible risk from consumption. A knowledge of one's position with reference to danger is of prime importance. Study of the tables demonstrates that trades permitting the breathing of plenty of pure, fresh air, such as farming, show the very lowest death-rates. The individuals with weak lungs should therefore turn to farming and stock-raising as their life-occupation.

*Climate.* The popular idea that cold weather favors consumption and that warm weather favors the patient is true in a limited sense only. The following table shows the death-rate from consumption for the whole United States during 1900 for each month of the year, and for Chicago, during the years 1902 and 1903.



Table 20; monthly death-rate from consumption for 1900 in the United States, and for 1902 and 1903 in Chicago.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States, 1900—												
Total Deaths.....	89,912	89,757	107,490	104,618	98,739	69,453	82,472	86,030	79,290	77,738	72,086	79,510
Deaths, consumption.....	9,526	9,478	11,400	11,349	11,683	7,730	8,255	7,894	7,671	8,011	7,897	8,685
Percentage due to consumption	10.59	10.56	10.61	10.85	11.83	11.13	10.01	9.18	9.68	10.30	10.95	10.92
Chicago, 1902												
Total Deaths.....	2,229	2,230	2,363	2,272	2,129	1,963	2,279	2,328	2,084	1,964	2,007	2,607
Deaths, consumption.....	2,250	198	240	217	225	220	199	180	206	200	185	236
Percentage due to consumption	11.19	8.88	10.11	9.55	10.57	11.21	8.73	7.73	9.88	10.18	8.90	9.05
Chicago, 1903												
Total Deaths.....	2,573	2,570	2,713	2,628	2,675	2,042	2,390	2,255	2,067	1,962	2,121	2,354
Deaths, consumption.....	273	252	290	283	264	221	221	227	209	221	192	228
Percentage due to consumption	9.83	9.81	10.32	10.77	9.88	11.70	9.25	10.07	10.11	11.26	9.01	9.69

Table 21; mortality from consumption by months in Illinois.

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1902.....	619	656	672	633	602	584	544	542	522	523	479	499
1903.....	642	626	696	641	634	579	553	529	501	561	505	551

together, falls in March, a very trying month in this state, and one which wealthy consumptives usually try to avoid by going south. In Chicago the maximum percentage of deaths for both 1902 and 1903 was in June, though the maximum number of deaths occurred in January for 1902, and in April for 1903. These statistics suggest that respiratory troubles are aggravated by the spring months, and that consumption is especially aggravated; secondly, that improper and inefficient ventilation during the winter because of the expense involved in heating fresh air is responsible for a very large part of the increased death-rate. In warm weather there is no benefit to the consumptive other than that obtained by the open ventilation of summer; and the low mortality from consumption in the fall months is due to the lasting benefit of the summer ventilation. It is the ventilation which is paramount. One of the monumental popular errors concerning consumption is that the patient cannot recover at home; that he must go to a warmer climate than ours. Yet, as a matter of fact, well-known to physicians, the organisms of consumption and their wicked assistants, the abscess-forming germs, flourish best in warm climates and least well in cold ones. This fact is directly substantiated by statistics from our own state, kindly furnished by the Illinois State Board of Health.

Table 22. Death-rate in Illinois by Sections, and the percentage of deaths from consumption.

	Rate per 1,000 All Causes.	Percentage due to Consumption.
1902.		
Northern section.....	12.54	10.85
*Northern section.....	10.32	9.61
Cook Co.....	13.84	11.39
Central section.....	11.33	11.74
Southern section.....	11.96	12.50
1903.		
Northern section.....	12.96	11.18
*Northern section.....	8.93	9.51
Cook Co.....	14.61	11.85
Central section.....	10.02	12.21
Southern section.....	10.27	12.47

\*Cook County excluded.

From these tables it may be inferred that in the whole United States May marks both the largest number of deaths and the maximum percentage of deaths due to consumption, indicating that winter and spring have proved too severe for the consumptive to long survive. In the Illinois statistics, table 21, the maximum number of deaths from consumption, taking both 1902 and 1903

It will be noted that the southern section of the state, the warmest portion, shows out-

side of Cook county, the highest death-rate from consumption.

Table 23. Death-rates from consumption in adjoining states. Compiled from U. S. census, 1900.

State.	Population.	Total Deaths.	Death rate per 1000.	Deaths Consumption.	Deaths per 100,000 population.
Michigan.....	2,420,982	33,572	13.45	2,438	101
Wisconsin....	1,069,042	24,928	12.05	2,350	114
Illinois.....	4,821,550	61,229	12.79	6,786	141
Indiana.....	2,516,462	33,586	13.35	4,232	168

The states to the north, Michigan and Wisconsin show fewer deaths from consumption in proportion to population than are shown by Illinois and Indiana which are situated further south. Fault cannot be found with these statistics, since Michigan is one of the registration states; and any error in the other three states would doubtless correct itself by reason of the fact that it would prevail equally in all three states and thus neutralize itself.

*Bovine Tuberculosis.* Careful study of D. E. Salmon's reports on Bovine Tuberculosis and public Health (Bulletin No. 53, Bureau of Animal Industry, U. S. Department of Agriculture) will convince one of some degree of relationship between bovine tuberculosis and tuberculosis in children. As a rule the germs of consumption, when swallowed in milk, pierce the walls of the intestine and attack the intestinal glands, causing what is popularly known as consumption of the bowels, and among physicians as *tabes mesenterica*. Not infrequently, however, germs taken into the mouth in food pierce the tonsils, spread down the glands of the neck into the chest along the wind-pipe, and from that point easily reach the lungs. Contaminated milk may, therefore, cause either consumption of the bowels, which is more usual, or consumption of the lungs which is more rare.

In American cattle, consumption is apparently increasing, with the increasing tendency to stable cattle near large cities. In England it is estimated that 30% of the

cattle are infected; in the United States it is thought that as yet only 2% are infected.\*

In Prussia the slaughterhouse statistics show 14.6 per cent of the cattle to be tuberculous; in Saxony the percentage is 29.13%. Of 20,850 cattle in Belgium tested for tuberculosis 48.88% showed it to be present; and of 25,439 so tested in Denmark, 49.3% showed it present.

In the light of these facts, if cow's milk can affect children, we should expect the very young children of England and the continent to show more consumption of the bowels than the babies of the United States. In this connection the following table is of interest.

Table 24. Showing the Prevalence of Intestinal Tuberculosis (*tabes mesenterica*) in children under 1 year in various places. From Bulletin 53 Bureau of Animal Industry.

	England and Wales, 1898.	Scotland, 1898.	London, 1898.	Berlin, 1898.	Paris, 1897.	New York City, 1899.	Boston, 1900.	Chicago, 1897 and 1898.	
Deaths from intestinal tuberculosis.....	3,265	239	602	4	4	34	2	8	
Deaths from all forms of tuberculosis.....	7,062	788	1,382	141	242	492	76	184	
Proportion of former to latter in percentage.....	46.23	30.33	43.56	2.84	1.65	6.91	2.63	1.13	

This table means that Great Britain with 30% of its cattle tuberculous, shows a per-

\*Of 4,841,166 cattle slaughtered in the year 1900 under federal inspection, but 5,279, or 0.11 per cent were sufficiently affected to cause the condemnation of any part of the carcass. Bulletin No. 53, p. 7.

centage of intestinal tuberculosis compared with all forms ranging from 30% to 46%, whereas in Berlin, Paris, New York, Boston and Chicago, where inspection of milk is carefully made only 1.63% to 6.91% of infantile tuberculosis is primarily intestinal, presumably from contaminated milk. This table is a brilliant reply to those who decry the value of intelligent milk inspection.

Although the evidence just offered is circumstantial it is none the less valuable, and multiplication of such statistics is hardly necessary. It is worth while, however, to state that numerous cases are on record of the accidental inoculation of adults who have made post mortem examinations of tuberculosis in cattle; and instances of the infection of cattle by sputum from individuals suffering from consumption are very numerous. A disease which is found in cattle, hogs, sheep, horses, cats, dogs, rabbits, guinea pigs, monkeys, gorillas, and even lions in captivity, undoubtedly is able to affect human beings as well. Certainly any other germ known to cause disease in a wide range of animals, uniformly causes disease in man also. The simple conclusion is that inspection of cattle and milk and milk-sterilization is absolutely essential, if our Chicago and our Illinois statistics are to remain at their present low level in infantile tuberculosis.

*Urban and Rural Tuberculosis.* The variation in death-rate from consumption in cities and in rural districts is very large, especially when all towns or cities over 5,000 are classed as urban instead of rural.

Table 25. Rural and Urban Death-rate for all forms of tuberculosis in Illinois, 1903. (Figures kindly furnished by the State Board of Health.)

	Population.	Total Deaths.	Deaths per, 100,000 population.
Chicago.....	1,885,000	3,377	179
31 other Illinois cities.....	459,489	879	191
Rural districts and small towns.....	2,783,099	2,770	99
Total.....	5,127,579	7,026	137

The death-rate from consumption and other forms of tuberculosis in cities is double

or almost double what it is in rural districts. The small death-rate for the whole United States from consumption is due to the fact that 51,002,376 of our population is rural, only 24,992,199 being urban.

Why should urban districts show almost double the deaths shown in rural districts? The answer is that crowding, poverty, dissipation, smoke and lack of fresh air are the great aids to consumption. This is proved by a consideration of the 2,591 deaths from tuberculosis which took place in Chicago between July 1, 1903 and April 1, 1904. I went to the city records in Chicago and transcribed upon cards the name, age, social condition, residence, date of death, and cause in each case dying from tuberculosis. These I platted upon a city map, and I find that they fall into five huge groups: first, the colored belt, extending from Sixteenth St. to Fifty-first, between State St. and the Rock Island tracks, this district having sent 119 to their graves in nine months; secondly, the Bohemian district, west of Halsted and between Fourteenth and Twenty-second Sts., this district furnishing 211 deaths in nine months; thirdly, the Hull House district, west of the river to Ashland Avenue, and between Jackson Boulevard and West Fourteenth St., this district having sent 161 to the cemeteries in nine months; fourthly, the North Side River district, between Wells St. and the river, and North Avenue and the river, furnishing 118 deaths in nine months; fifthly, the Milwaukee Avenue district, between Kinzie and Robey Sts., North Avenue and the river, this district furnishing 194 deaths in nine months.

These figures are more striking by contrast. Thus in the narrow belt two blocks wide, between State St. and the Rock Island tracks extending south from Sixteenth St. to Fifty-first St. more people died of tuberculosis than in all the territory between State St. and Lake Michigan, Sixteenth and Fifty-first Sts., a district seven times as large. Similarly on the North Side, there were 118 deaths from consumption west of Wells St. and south of North Avenue, whereas east of Wells St. and south of North Avenue there were only 50 deaths, 28 of these taking place



south of Chicago Avenue in a densely populated rooming district.

An analysis of the districts showing the maximum tuberculosis reveals many possible causal factors. Race, poverty, smoke, dissipation, and bad-housing are responsible for the deaths in the colored belt. In the Bohemian district the houses are as a rule detached and are reasonably hygienic, but most Bohemians cannot be persuaded that ventilation is an absolute necessity. The Hull House district has been so much discussed that comment is unnecessary. The nativity of the inhabitants, their bad-housing and overcrowding, the poor ventilation of sleeping rooms and the smoke are responsible for numerous cases. In the North Side district Gault Court in the half-mile between Chicago Avenue and Division St. showed 10 deaths in nine months, the inhabitants being largely foreigners, Italians, Germans, Swedes and Irish, living crowded together with inadequate ventilation. This short street in nine months sent as many to their graves because of consumption as Hardin and Henderson counties, with their 18,636 inhabitants sent in the whole year of 1903.

In looking over the city map it is also evident that the areas of maximum tuberculosis are the areas of maximum smoke. The gases liberated from burning soft coal, containing large amounts of sulphur and soot are inhaled day after day and night after night. In time their action upon the lungs proves so deleterious that consumption soon gains a foot-hold. Where trees cannot live human beings struggle on in an unequal conflict, ultimately perishing. The cost to the commonwealth of an uncontrolled smoke- nuisance is measured by larger figures than mere damage to paint and fabrics, or mere interference with artistic sensibilities. Smoke murders.

Very important is the fact that consumption is spread by contact. Thus in the last nine months 56 houses furnished two or more deaths from tuberculosis. If researches were to be carried back ten years the number of houses furnishing two or more deaths from that disease would be immensely increased. Thus at 2110 Armour Ave. P. B.,

age 24, died Oct. 23, 1903, A. D. having died in the same house, aged 23, Aug. 7, 1903. At 2112 Armour ave. W. T., aged 23, died Nov. 17, 1903, E. G., aged 35, having died Sept. 15, 1903. And 54 other similar instances can be recorded! Think what a hot-bed of consumption Armour Ave. must be, with a record of 47 deaths in nine months, more deaths than Menard, Mercer and Monroe counties, with their 50,513 inhabitants furnished in the whole twelve months of 1903. South State St. is worse than Armour Ave. 70 having died of consumption in nine months.

Table 26. Streets in Chicago furnishing ten or more deaths from tuberculosis in nine months.

Street.	No.	Street.	No.
Armour avenue.....	47	Lowe avenue.....	15
Ashland avenue.....	26	Loomis street.....	14
Aberdeen street.....	11	Milwaukee avenue.....	11
Adams street.....	10	Mohawk street.....	12
Archer avenue.....	10	Morgan street.....	19
Blue Island avenue....	13	Madison street.....	30
Clark street.....	50	North avenue.....	16
Chicago avenue.....	16	Ohio street.....	13
Clybourn avenue.....	19	Polk street.....	14
Center avenue.....	15	Paulina street.....	18
Cottage Grove av'nue	10	Princeton avenue....	15
Dearborn street.....	40	Peoria street.....	10
Division street.....	13	Randolph street.....	15
Emerald avenue.....	18	Seventeenth street....	13
Erie street.....	20	South State street....	70
Eighteenth street.....	19	Sedgwick street.....	13
Eighteenth place.....	11	Sangamon street.....	16
Fifth avenue.....	15	Taylor street.....	15
Fourteenth street.....	15	Throop street.....	15
Gault court.....	10	Twentieth street.....	17
Green street.....	10	Twenty-second street	10
Harrison street.....	10	Union avenue.....	10
Halsted street.....	36	Van Buren street.....	11
Hermitage avenue....	11	Wabash avenue.....	34
Huron street.....	16	Washington boulevard	11
Jefferson street.....	13	Western avenue.....	13
Lake street.....	20	Wallace street.....	12
LaSalle street.....	23	Wentworth avenue....	12
Lincoln street.....	17	Wells street.....	10
Laflin street.....	10		

All Chicagoans will readily recognize every street in the above table, all of them being located in the more densely settled and poorer neighborhoods. An apparent exception like Washington Boulevard is readily explained when it is stated that practically every death upon it occurred east of Aberdeen St. In all cases where a street varies in its inhabitants and their manner of housing, it will be found that the deaths from consumption are massed in the bad portions of the street. It cannot be objected that many of these streets show large numbers of deaths because of their colored residents, only two of them

being thus accounted for, namely Armour Ave. and Dearborn St. Indeed in Chicago, contrary to general opinion, the colored race does not essentially modify the death-rate.

Table 27. Classified Population of Chicago for 1900, with Death-rate.

Class.	Percentage of population.	Death rate.	Deaths.	Deaths Consumption.	Per cent.
White .....	98.1	16.1	26,854	2,865	10.67
Native .....	63.7	15.8			
Foreign .....	34.4	16.6			
Colored .....	1.9	21.6	679	169	24.89

Less than 2% of the population of Chicago is colored. The percentage of deaths in Chicago from tuberculosis compared with deaths from all causes is for combined races, 11.02% as against 10.67% for whites alone. The following table shows the conditions in important cities for 1900 and 1903.

Table 28. Ratio of deaths from tuberculosis to deaths from all causes in Illinois cities.

	1900.	1903.
Aurora .....	8.01	10.06
Belleville .....	10.04	9.80
Danville .....	11.54	9.82
Decatur .....	12.11	8.45
Galesburg .....	10.37	10.13
Jacksonville .....	11.55	10.87
Ottawa .....	10.67	9.33
Quincy .....	11.51	10.68
Springfield .....	11.37	12.23

\*Figures kindly furnished by the Illinois State Board of Health.

The improvement in urban tuberculosis as shown in the above table is very gratifying, and the improvement is shown equally well in Chicago.

Table 29. Consumption in Chicago.

Year.	Total Deaths, Consumption.	Deaths from Consumption per 1000 of population.
1892 .....	2,177	17.84
1893 .....	2,315	18.10
1894 .....	2,155	16.09
1895 .....	2,169	15.58
1896 .....	2,310	15.33
1897 .....	2,180	14.35
1898 .....	2,416	15.20
1899 .....	2,516	15.35
1900 .....	2,509	15.30
1901 .....	2,495	14.19
1902 .....	2,556	14.04
1903 .....	2,869	15.22

In Chicago the lowered death-rate is due in part to the trolley-car which has done more to spread the population than any one factor. The policy of the street-car companies in carrying a passenger any distance for five cents has vastly aided in reducing density of population, and the speed of the trolley-cars has brought distant and wholesome localities within a short-time-distance from the place of work.

It may be suggested that local boards of health should see to it that houses are properly constructed for efficient ventilation, that overcrowding be prevented, that the smoke- nuisance be done away with, that poverty be alleviated by finding suitable employment for the unemployed, and that inspection of the premises with disinfection should be carried out after every death certified from consumption. I believe most strongly that tuberculosis is "caught," not so readily as measles and scarlet fever, but just as surely. In Chicago within nine months time 56 houses reported double deaths, and not one house was disinfected! Why should houses be permitted to become the repositories of countless germs of consumption? Why is it not just as imperative for city boards to disinfect after consumption as after smallpox? Medical men are beginning to abandon the old fetic of heredity. Inheritance does not play the part once supposed. Consumption is acquired by actual contact, not by inheritance of a predisposition towards the disease. A brother contracts the disease and soon his sister at home has it. A husband acquires the disease, and later the wife, too, dies of it. Up to within one month a leading insurance company of the United States had upon its blanks this question: "Have any of your uncles and aunts ever died of consumption?" This question has been replaced by two others: "Is any person in your immediate household now ill with consumption? Or has anyone of them recently died of that disease?" Intimate association with a consumptive is the paramount factor. I am personally willing boldly to deny the claim that there is an inherited predisposition toward tuberculosis in certain individuals, and I

believe that such denial will be universally made at some future date; because experience is showing that an individual with consumption is assisted by nature to a partial recovery spontaneously, possibly as in other bacterial diseases, by the formation of some natural antidote or bactericide within his blood; and is further showing that the offspring of a tuberculous mother show more natural resistance to tuberculosis than the offspring of a mother not so diseased. Let us get emancipated from the old and fatal error that it is no use; that the patient must die because he has inherited the disease or a tendency toward it; and let us gain time for vigorous and early treatment. And above all let us disinfect homes after the death of the poor unfortunates, so that the surviving friends and relatives may not later perish, too, and by their death continue the old fallacy that tuberculosis is inherited in fact or

in tendency. Let us have no such notorious curse in Chicago as the "lung-block" of New York City into which healthy individuals move and in a few months are carried away to a consumptive's grave. Germs live two years in dark sunless halls and rooms, and in twenty minutes they can be thoroughly killed by disinfection. I venture to predict a fall of 25% to 50% in our death-rate from consumption within ten years after the introduction of disinfection in Chicago and our Illinois towns.

Tuberculosis and consumption in the counties of Illinois show remarkable variations. Thus Hardin County showed 23.84% of the total deaths for 1902 to have been from tuberculosis, and only 9.72% in 1903. The conditions are shown in detail in the following table collated from statistics prepared by the Illinois State Board of Health.

TABLE 30.—Tuberculosis, by Counties, in Illinois, for 1902 and 1903.

COUNTY.	1902.					1903.					Per cent of tuberculosis to all deaths, both years.....
	Population	Total deaths from all causes.....	Deaths from consumption.....	Deaths from other forms.....	Per cent of tuberculosis to all deaths.....	Population	Total deaths from all causes.....	Deaths from consumption.....	Deaths from other forms.....	Per cent of tuberculosis to all deaths.....	
Adams.....	68,092	985	100	21	12.28	68,609	939	90	14	11.07	11.69
Alexander.....	19,948	347	48	2	14.36	20,230	289	48	4	17.99	16.04
Bond.....	16,383	156	15	.....	9.61	16,536	145	11	3	9.62	9.63
Boone.....	16,509	173	12	3	8.67	16,867	156	17	3	12.82	10.64
Brown.....	11,161	95	7	.....	7.36	11,122	105	17	2	18.09	12.90
Bureau.....	42,331	497	29	4	6.64	42,941	387	21	2	5.94	6.33
Calhoun.....	9,170	97	9	.....	9.28	9,297	81	7	.....	8.64	8.99
Carroll.....	19,092	184	18	2	10.36	19,156	202	8	1	4.45	7.51
Cass.....	17,474	178	21	1	12.36	17,600	160	19	2	13.12	12.72
Champaign.....	48,715	528	44	9	10.04	49,261	467	33	7	8.78	9.45
Christian.....	33,225	315	21	5	8.22	33,443	309	26	5	10.03	9.13
Clark.....	24,416	313	61	9	22.36	24,673	202	26	6	15.84	19.81
Clay.....	20,109	183	22	6	15.30	20,387	107	11	1	11.21	13.79
Clinton.....	20,207	205	10	2	5.88	19,605	208	13	3	7.69	6.78
Coles.....	34,937	356	45	7	14.60	35,362	336	42	7	14.58	14.59
Cook.....	1,968,098	27,252	2,691	414	11.39	2,032,779	29,701	3,007	518	11.87	11.64
Crawford.....	19,631	276	41	7	17.39	19,827	212	26	5	14.62	16.19
Cumberland.....	16,260	204	27	3	14.71	16,328	147	12	3	10.20	12.82
DeKalb.....	32,694	310	24	3	6.71	33,163	308	29	3	10.39	9.55
DeWitt.....	19,368	193	14	3	8.81	19,570	172	12	2	8.14	8.49
Douglas.....	19,382	235	27	3	12.76	19,525	158	20	3	14.55	13.49
DuPage.....	29,325	291	16	5	7.22	29,890	322	16	4	6.21	6.69
Edgar.....	28,570	312	29	4	10.57	28,719	300	37	5	14.00	12.25
Edwardsville.....	10,525	106	12	1	12.17	10,615	93	12	2	15.05	13.57
Elliott.....	20,686	252	24	6	11.08	20,797	219	20	3	10.50	11.25
Fayette.....	28,804	299	41	3	14.71	29,174	253	29	4	13.04	13.95
Ford.....	18,624	133	7	2	6.77	18,756	126	11	.....	8.73	7.72
Franklin.....	20,182	295	35	.....	11.86	20,436	173	21	4	14.45	12.82
Fulton.....	46,819	461	38	6	9.54	47,123	413	35	9	10.65	10.07
Gallatin.....	16,016	308	26	3	14.96	16,106	160	20	1	13.12	14.13
Greene.....	23,013	266	30	2	12.03	22,974	224	22	4	11.60	11.84
Grundvick.....	24,758	273	19	3	8.06	25,070	250	14	2	6.40	7.27
Hamilton.....	20,676	239	37	6	17.99	20,916	105	13	1	13.33	16.57
Hancock.....	32,276	359	22	3	6.96	32,308	302	39	4	14.21	10.29
Hardin.....	7,491	88	18	3	23.84	7,512	72	5	2	9.72	17.50
Henderson.....	11,028	83	3	.....	3.61	11,124	71	4	.....	5.63	4.55



TABLE 30—Tuberculosis in Illinois—*Concluded.*

COUNTY.	1902.					1903.					Per cent of tuberculosis to all deaths, both years.
	Population.	Total deaths from all causes.	Deaths from consumption.	Deaths from other forms.	Per cent of tuberculosis to all deaths.	Population.	Total deaths from all causes.	Deaths from consumption.	Deaths from other forms.	Per cent of tuberculosis to all deaths.	
Henry	41,591	436	30	5	8.05	42,062	362	24	7	8.56	8.27
Iroquois	38,583	332	23	10	9.94	38,868	293	38	7	13.31	11.52
Jackson	35,083	299	24	2	8.69	35,690	285	28	2	10.53	9.59
Jasper	20,554	203	22	4	12.81	20,752	171	23	3	17.54	14.95
Jefferson	29,241	332	42	2	12.65	29,795	253	31	5	14.23	13.33
Jersey	14,414	169	12	2	8.29	14,394	161	22	1	14.28	11.21
Jo Daviess	23,972	204	15	3	8.82	23,915	228	21	3	10.52	9.72
Johnson	15,798	145	21	1	15.17	15,863	130	15	1	11.51	15.45
Kane	61,538	733	53	17	9.55	62,911	1,087	82	23	9.65	9.62
Kankakee	38,838	557	58	10	12.21	39,681	590	53	4	9.66	10.90
Kendall	10,828	84	9	1	11.90	10,764	81	4	1	4.96	8.48
Knox	44,584	489	52	8	12.49	45,070	477	38	5	9.01	10.77
Lake	36,558	440	44	8	11.82	37,585	487	48	5	10.88	11.33
LaSalle	89,177	955	83	11	9.84	89,809	844	65	11	9.00	9.45
Lawrence	16,889	239	36	4	16.74	17,072	170	26	2	16.47	16.63
Lee	30,635	278	29	3	11.51	31,006	266	27	4	11.28	11.58
Livingston	42,751	371	33	2	9.43	43,109	326	31	4	10.73	10.64
Logan	29,318	411	35	3	9.24	29,637	329	62	11	22.19	15.00
Macon	45,187	514	51	12	12.26	45,779	483	39	7	9.52	10.66
Macoupin	42,631	461	34	5	8.46	42,819	447	50	3	11.85	10.13
Madison	67,326	883	56	10	7.17	68,641	802	64	10	9.23	8.31
Marion	31,767	407	46	5	12.53	32,277	338	44	4	14.20	13.29
Marshall	16,913	169	8	1	5.32	17,185	131	12	1	9.16	7.00
Mason	17,776	178	15	3	10.11	17,918	179	21	2	14.52	10.92
Massac	13,469	251	32	4	14.04	13,649	164	25	6	18.90	16.14
McDonough	28,601	302	40	6	15.23	28,696	246	28	3	12.19	14.05
McHenry	30,488	292	23	2	8.66	31,582	255	13	6	7.45	8.04
McLean	68,804	776	61	5	8.51	69,285	673	51	8	8.76	8.63
Menard	14,579	149	16	1	11.41	14,731	144	19	1	13.89	12.63
Mercer	21,425	211	22	4	12.32	21,665	166	15	2	10.24	11.41
Monroe	14,026	149	6	3	6.04	14,117	122	8	1	6.54	6.27
Montgomery	31,063	329	36	2	11.53	31,086	288	43	4	16.35	13.78
Morgan	35,490	542	61	7	12.56	35,717	517	57	9	12.76	12.65
Moultrie	15,373	154	15	2	11.04	15,447	142	17	3	14.08	12.50
Ogle	29,213	210	13	1	6.19	29,255	212	18	1	8.96	7.58
Peoria	92,254	1,063	98	9	10.06	94,077	1,122	108	10	10.51	10.30
Perry	20,290	276	23	3	9.12	20,520	223	15	4	8.52	9.02
Piatt	17,845	202	26	3	14.36	17,899	182	19	1	10.44	12.50
Pike	31,714	350	28	9	10.57	31,774	305	29	4	10.82	10.99
Pope	13,154	134	20	1	15.67	13,111	113	19	3	19.47	17.41
Pulaski	15,193	249	39	8	18.88	15,514	135	21	1	16.29	17.97
Putnam	4,748	51	2	1	3.92	4,750	48	3	1	6.25	5.05
Randolph	28,591	306	36	2	12.42	28,887	348	47	10	16.37	14.53
Richland	16,765	148	19	2	12.84	16,803	168	15	1	12.71	10.76
Rock Island	57,915	517	50	3	10.25	59,249	506	53	8	10.23	10.24
Saline	22,153	219	34	3	16.89	22,388	164	18	3	12.80	15.14
Sangamon	73,673	1,039	119	18	13.19	74,712	968	102	20	12.60	12.91
Schuyler	16,152	164	16	1	10.36	16,164	120	19	1	16.66	13.03
Scott	10,485	109	13	2	13.76	10,500	66	8	1	12.12	13.14
Shelby	32,313	282	29	7	12.41	32,407	271	35	2	13.65	13.20
Stark	10,227	99	3	2	5.05	10,247	94	8	3	14.59	8.29
St. Clair	90,708	1,005	105	11	11.54	92,719	1,495	131	9	9.36	10.24
Stephenson	35,652	391	24	2	6.65	36,012	384	25	4	7.55	7.03
Tazewell	33,954	280	30	3	11.79	34,321	347	35	3	10.95	11.32
Union	22,822	368	35	4	10.59	22,928	324	36	4	12.34	11.42
Vermilion	68,781	795	80	22	12.83	70,354	768	73	12	11.07	11.96
Wabash	12,726	157	18	5	14.65	12,798	124	14	4	14.63	14.64
Warren	23,539	243	22	5	10.29	23,728	243	23	6	11.93	11.11
Washington	19,579	218	22	5	15.14	19,605	187	18	1	10.16	12.84
Wayne	28,390	258	26	13	15.12	28,772	191	30	8	19.52	17.15
White	25,762	422	59	2	14.45	25,500	206	34	3	17.96	15.60
Whiteside	35,481	398	28	1	7.03	35,867	328	23	5	10.53	7.71
Will	77,315	887	94	15	11.96	78,594	858	79	11	10.48	11.23
Williamson	28,940	332	37	2	11.75	29,467	240	23	2	10.41	11.18
Winnebago	49,426	590	56	6	10.51	50,217	500	50	10	10.71	10.61
Woodford	21,901	191	16	2	9.42	21,940	187	12	3	8.02	8.73
Totals	5,018,646	61,144	6,021	884	11.27	5,127,579	61,037	6,081	960	11.54	11.41

An analysis of these counties fails to reveal any adequate cause for the great variation in the prevalence of consumption. Some facts stand out clearly, however. For example, Jackson, Williamson, Saline, Gallatin, Union, Johnson, Pope, Hardin, Alexander, Pulaski and Massac counties, all situated in the extreme southern part of the state, where railroads, good houses, and means of combating disease are poor, show 14.54% of all deaths from all causes to be due to tuberculosis alone. Interesting is the relation of tuberculosis to the river valleys of Illinois. Thus Winnebago, Ogle, Lee, Whiteside, and Rock Island counties, the counties of the Rock River valley, show only 9.54% of their deaths to be from tuberculosis. Grundy, Kendall, LaSalle, Bureau, Putnam, Marshall, Woodford and Peoria counties, in the upper Illinois valley, show only 7.83% of their deaths to be from tuberculosis. These counties are doubtless the most prosperous ones of the state, and prosperity keeps down consumption. Tazewell, Mason, Fulton, Schuyler, Brown, Cass, Morgan, Pike, Scott, Calhoun, Green, and Jersey counties show 11.62% of their total deaths to be from tuberculosis, these counties constituting the lower Illinois River valley. JoDaviess, Carroll, Whiteside, Rock Island, Mercer, Henderson, Hancock, Adams, and Pike counties, constituting the Mississippi Valley above St. Louis show a percentage of 9.38%; and St. Clair, Monroe, Randolph, Jackson, Union and Alexander counties, constituting the Mississippi Valley below St. Louis show 11.35% of their total deaths to be from consumption.\* Markedly contrasting with these are the statistics for the valley of the Wabash River. Clark, Crawford, Lawrence, Wabash, Edwards, White and Gallatin counties, of the valley of the Wabash, show 15.79% of all of their deaths to be from tuberculosis. The northern Illinois coal mining counties, La Salle, Grundy, Putnam, Bureau, and Marshall, show only 7.02% of their deaths to be from tuberculosis, the healthiest portion of the state. A state sanitarium might well be located in any one of these counties.

Some counties show high death rates from tuberculosis because of their colored inhabit-

ants. Thus Alexander County with a percentage of deaths from tuberculosis compared with deaths from all causes as high as 17.99% for 1903, lost only 16 whites in its total of 48 deaths from consumption, the remaining 32 being colored. Randolph County with a percentage of 16.37% lost 33 whites and 14 colored. Yet the aggregate effect of the colored race upon the death-rate from consumption is small, only 2.61% of the inhabitants of Illinois being colored in 1900, and only 366 having died from consumption in Illinois in 1903 as against 5,715 whites.

In conclusion, a few additional suggestions for the prevention of consumption are in order. Tenement laws should be made and rigidly enforced, making inside bedrooms a crime. It is our business where our neighbor sleeps, as much in tuberculosis as in smallpox. It is our business how the landlord builds his houses, how many cubic feet of air he provides for each sleeper. It is our business to see that our neighbor's house is properly ventilated, to see that he spits in proper places if he must needs spit, and not upon the sidewalk or in public conveyances and places; that he does not dissipate his time away in tobacco-filled saloons till one o'clock in the morning (or later). Midnight closing is a hygienic measure. He must sleep; he must get air. We must have numerous small parks and many large parks. Our streets must be wide and our tenement-houses not above four stories in height, or better three. Solid blocks of houses should not be permitted, preventing as they do even the mere filtering in of a few rays of doubtful sunshine through a pall of smoke. The smoke nuisance should be attacked with renewed vigor on a new and vastly important basis—the destruction of life which it entails. The poor should be helped. They should be shown how to keep their houses from becoming granaries of germs. Their blind alleys should be opened up for them. They should be taught that window curtains should be up, not down; that curtains which shut out sunshine, shut out health; that it is better for the furniture and carpets to fade than the children; that windows should

be opened at night, the night air being the very best air that we have; that dirty hands make dirty eating; that malnutrition favors the way for disease; that many dear foods have small food value and are not to be desired; that many cheap foods within their means, as peas and beans, have a high food-value; that loss of strength, a cold, and a few night sweats, mean that a physician's help is necessary, and an excellent physician may be found in every dispensary without cost. Those employing help must remember that living wages are the workingman's right; and that if he be married, he should receive more than if he is single. He must be given sufficient to clothe himself and his family; to feed himself, his wife, and children properly; to house them hygienically. He must not nor must any of his family be subjected to the terrible strain of overwork in the sweat-shop or elsewhere, as are so many of the foreign poor. He must keep out of saloons. The old idea that whisky prevents or cures consumption is a stupendous misconception. Alcohol is one of the most important of the predisposing causes. Whenever consumption takes hold of a family, the alcoholics are the very first to perish of it. Put no trust in patent medicines; they are a delusion and a snare. The patent medicine man is no physician, sitting up nights studying the subject of tuberculosis, endeavoring to find its favoring causes so that the people may avoid them; on the contrary he seeks to increase the number of cases by persuading you that you have something which you have not, so that you may buy a few bottles of alleged medicine for the sake of curing that which you do not have. Thus it is that poor people and foolish ministers of the gospel write testimonials which outrage their own innate common sense. There is one medicine and one cure; it is the breathing in of large doses of pure air, all day long and all night long.

#### Discussion of Tuberculosis Symposium.

**Dr. J. W. Pettit,** Ottawa: I am not in the habit of mapping out work for others without being willing to do my share or even more. If I can have the assistance of the profession of the State, I will attempt to make practical demonstration of the truths set forth in the symposium which has been presented. My plan is this:

Secure a few cases of tuberculosis, say 20 or 30 and place them under the best possible conditions in a Tent Colony and thus make a practical demonstration to the people that what has been set forth by the several essayists is true. Otherwise it may be argued by the members of the Legislature that we are asking for a large appropriation for state sanatoria to demonstrate a mere theory. We must prove to the Legislature that our plan is thoroughly practical. If we do this there can hardly be a question as to our success in securing an appropriation. I wish to read a letter from Governor Yates showing the interest he takes in this matter.

My dear Doctor—I was pleased to learn a day or two ago from the State Board of Health, that you have made elaborate plans for the presentation of a practical symposium on pulmonary tuberculosis, at the next meeting of the Illinois State Medical Society, which will include statistical features confined to Illinois, regarding the prevalence, mortality and such other data in connection with the disease as may be found desirable, and that it is the intention of the State Medical Society to endeavor to stimulate an interest and arouse enthusiasm among the profession and the laity, which will lead to practical results.

For sometime past I have been greatly interested in the campaign which has been inaugurated by medical men against this disease, which, according to a resolution recently adopted by the Illinois State Board of Health, has been properly termed "the great white plague." Its ravages not only in Illinois but elsewhere throughout the country have caused me to realize that it is imperative that immediate steps be taken to do whatever is practicable to prevent its spread. What shall be done in this respect, you and your associates in the State Medical Society are more competent to determine than I.

As you are aware, I recommended the establishment of a sanatorium for consumptives in my message to the forty-third general assembly in January, 1903. I did this on the earnest recommendation of the State Board of Health? A bill providing for a sanatorium was introduced early in the session, but for some reason it received but little support from the medical profession. I trust that in 1905 the interest and enthusiasm which you seek will be manifested not only by the medical profession but by the entire people, and that some step will be taken to at least limit the ravages of this disease which medical science teaches us is preventable.

It will afford me much gratification to be of assistance to the State Medical Society in its laudable undertaking.

Very truly yours,

(Signed)

Richard Yates.

**Dr. J. W. Pettit**

Chairman Section One,

Illinois State Medical Society,

Ottawa, Illinois.



If the crusade against tuberculosis which has been inaugurated at this meeting of the Illinois State Medical Society should prove a failure, it will be because it has been improperly managed or because its importance is not appreciated. With a united profession assisted by 800 newspapers in this State, who have pledged their support, it cannot be a failure. I have no doubt that if a committee appointed by this Society will work faithfully until the next meeting of the Legislature, there will be no difficulty in securing an appropriation of any reasonable sum that may be needed to build state sanatoria which seems to be the first step necessary to be taken in this great work. I am fully persuaded that all that is necessary to secure the active support of the public is to get the facts before the people. This is the duty which at present confronts the Illinois State Medical Society.

Let me say also in this connection that from today for the next ten days the papers of the State of Illinois will be full of the facts set forth in this symposium today. I had addressed to every secular publication of whatever kind and character in all languages, published in the confines of this State, about eleven hundred of them in all, a letter apprising them of what we were going to do here today. Eight hundred of these papers responded and said that they were willing to do everything in their power to assist in this work. Let me say to you, gentlemen, and I say it to your shame, that I have addressed numerous communications to the medical profession of the State, but I never got anything like so large a percentage of responses, even when it was a matter that interested the medical profession directly.

The press of this city did not know who I was. They only knew that I represented the Illinois State Medical Society, and they were ready to take on faith, without raising a single question, all I gave them. It is a remarkable exhibition of the generosity of the press. Within the next ten days the public will receive more reliable information on this subject than they would have had in seventeen years if they had to depend on the medical profession and on the medical journals. We are going to make a legitimate use of the press in the dissemination of this knowledge.

I have no doubt that if a committee is appointed by this Society that it will go to work and work faithfully until the next meeting of the legislature; that there will be no difficulty in getting an appropriation of any sum that may be needed, even \$250,000.00 from the legislature for this work.

If the people and the legislators and newspapers of the State have not done their duty in this matter, whose fault is it? It is the fault of the medical profession in not giving them the necessary information.

**General Dickey, Bloomington:** I heartily agree with all that has been said, and I realize as well as anybody the necessity of acting in good faith and at once in attempting to get rid of this awful calamity that we have in this State as well as in the United States. I believe that

if we go about it in the proper way, and if every member of the Illinois State Medical Society takes it upon himself to see personally, and to impress on every legislator in the State the importance of the passage of such an appropriation, and not wait until the last minute, when the legislature is in session, you will get all you want. Begin early and remind him often. See your legislators personally, and have every one in the State properly instructed and informed upon the necessity of an appropriation, then when the time comes have the proper committee from this Society appear at Springfield, and you can, without doubt, get the safe passage of this bill and as much of an appropriation as you may need. See the legislator with whom you are acquainted personally, and you will succeed.

**Dr. Thos. W. Bath, Bloomington:** A few days ago this city passed an ordinance against public spitting. Every city in the State ought to do the same thing, because it is, at least, a beginning. I think we are a little topheavy trying to get the legislature to establish sanatoria, but we can do a great deal locally by educating the public as to the dangers of promiscuous spitting. It has occurred to me that it is useless for doctors to get up in general sessions and discuss among themselves these threadbare subjects that can be read about in all textbooks. The laity, the ones who are concerned the most, do not enter into these discussions; they know nothing about them, and they never will hear anything about what we are saying and what we want them to do.

We ought to lay aside all professional jealousies in this matter, and when the yearly program of the local societies is made up, let the proper officers confer with Dr. A., B. and C., irrespective of any personal feeling, and map out a line of action that will be productive of some good all around.

We should educate the public both by precept and by example. But lay aside professional jealousies; do not imagine that one man is trying to do more than another to get before the people. Let them get up their scientific articles for the education of the people. Many of the laymen in this community know more about the microscope, and science, and tuberculosis than the doctors, and it will not be a very difficult matter to interest the people in such a movement as we are now endeavoring to launch. Interest the general public in this movement, it is inaugurated for their benefit, and they will go to Springfield and say that so and so must be done, and it will be done.

That can only be done by our letting the public know that we are interested in their welfare and not in our own. Let them see that we are really concerned about them; be public spirited, and then let the public take care of the legislators. They can do it better than we can, because the people are the government, and the government is the people.

**Dr. J. A. Egan, Springfield:** I regret exceedingly that I was unable to be present at the reading of the papers before the symposium.

this morning, and that I am not in a position to intelligently discuss them.

As a physician, a sanitarian and a health officer, I am naturally interested in the subject of the Cause and Prevention of Tuberculosis. It has been the reproach of this State for sometime past that nothing has been done for the consumptives. I think that the whole profession is agreed that something should be done at once, and that the solution of the problem lies in the establishment of sanatoria—not in Colorado or Arizona—but in Illinois. There are many sites in this state which can be used to advantage in the establishment of Camps or Colonies for the housing of consumptives, and I believe that it is the consensus of medical opinion that consumption can be cured in Illinois.

Dr. Pettit referred to an appropriation for a consumptive sanatorium and mentioned the amount which he thought might be appropriated. I think that the Legislature, if it gives an appropriation at all, will give a large one, providing the members are convinced that the sanatorium is a necessity. Once convinced they will give their consent for its construction and maintenance.

Bills for the erection and maintenance of a

consumptive sanatorium and an epileptic colony were introduced in the last Legislature, but receiving little support they failed to become laws. However, the epileptic colony bill passed the house, carrying an appropriation of \$100,000. In connection with these bills, a member of the House of Representatives made a remark to me, which may be of interest. He said: It is impossible for the medical profession to get an appropriation for an epileptic colony and one for a consumptive colony in the same session.

Believing that this remark voiced the sentiments of many members of the House of Representatives, the State Board of Health thereafter paid but little attention to the consumptive bill, but used its influence to further the passage of the epileptic colony bill. As stated, this bill passed the House but unfortunately reached the Senate but a day or two before adjournment when nothing could be done.

Illinois should, and I believe can, have a sanatorium for consumptives. If the members of the medical profession will use their influence in this direction, there is little doubt but that the next session of the Legislature will be able to obtain a good appropriation for the establishment of a sanatorium.

## Rules for Patients of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis

1. Don't spit on the pavement, on the street, nor into any place where you cannot destroy the germs which you spit up.

2. Do not swallow any spit which comes up from your lungs or which comes out of the back part of your throat.

3. Spit into a spit cup when it is possible to do so.

4. Always use a spit cup with a handle to it so that you can hold it close to your mouth.

5. When you use a china or earthenware spit cup, always keep lye and water in it and scald out the spit cup once or twice a day with boiling water.

6. When you use a tin spit cup with a paper spit cup inside burn the paper cup at least once a day and scald the tin cup with boiling water.

7. Never use a handkerchief or a rag or any material other than paper to spit in or to wipe your mouth with.

8. When you cannot spit into a spit cup, spit into a paper napkin.

9. Always use a paper napkin to wipe your mouth with, after spitting, and be careful not to soil your hands.

10. Always carry a cheap paper bag in your pocket or caba to put paper napkins in which you have used.

11. When you have used a paper napkin, either to spit in or to wipe your mouth with, fold it up carefully and put it away in a paper bag.

12. Every evening, before going to bed, burn your paper bag together with the napkins which you have deposited in it.

13. Do not let any spit get on your clothing, or your lips and hands, or your bed clothes or carpets or furniture, or on anything about you, wherever you may be.

14. If, by any accident, any spit should be deposited anywhere else than in your spit cup or in your paper napkin, take pains at once to destroy it, either by taking it up and putting it in the fire or by putting lye and water on it.

15. If you have a moustache or beard shave it off or crop it close.

16. Always wash your lips and hands before eating or drinking, and rinse out your mouth.

17. If you have a running sore take up the matter which is given off with absorbent cotton and burn it.

18. Avoid handshaking and kissing. These customs are dangerous to you as well as to others. They may give others consumption; they may bring you colds and influenzas which will greatly aggravate your disease and may prevent your recovery.

19. Do not cough if you can help it. You can control your cough to a great extent by will power. When you cough severely hold a paper napkin to your mouth so as not to throw out spit while coughing.

20. Sit out of doors all you can. If you have no other place to sit than the pavement sit on the pavement in front of your house.

21. Don't take any exercise except upon the advice of your doctor.

22. Always sleep with your windows open, no difference what the weather may be.

23. Avoid fatigue. One single fatigue may change the course of your disease from a favorable one to an unfavorable one.

24. Go to bed early. If you are working, lie down when you have a few moments to spare.

25. Don't take any medicine unless it has been prescribed by your physician. Medicine may do you harm as well as good.

26. Don't use alcoholic stimulants of any kind.

27. Don't eat pastry or dainties. They do not nourish you and they may upset your stomach.

28. Take your milk and raw eggs whether you feel like it or not.

29. Keep up your courage. Make a brave fight for your life. Do what you are told to do as though your recovery depended upon the carrying out of every little detail.

30. Always keep in mind that consumption can be cured in many cases and that it can be prevented in all cases.

31. If your own disease is too far advanced for you to recover, console yourself with the idea that you can keep those who are near and dear to you from getting it.



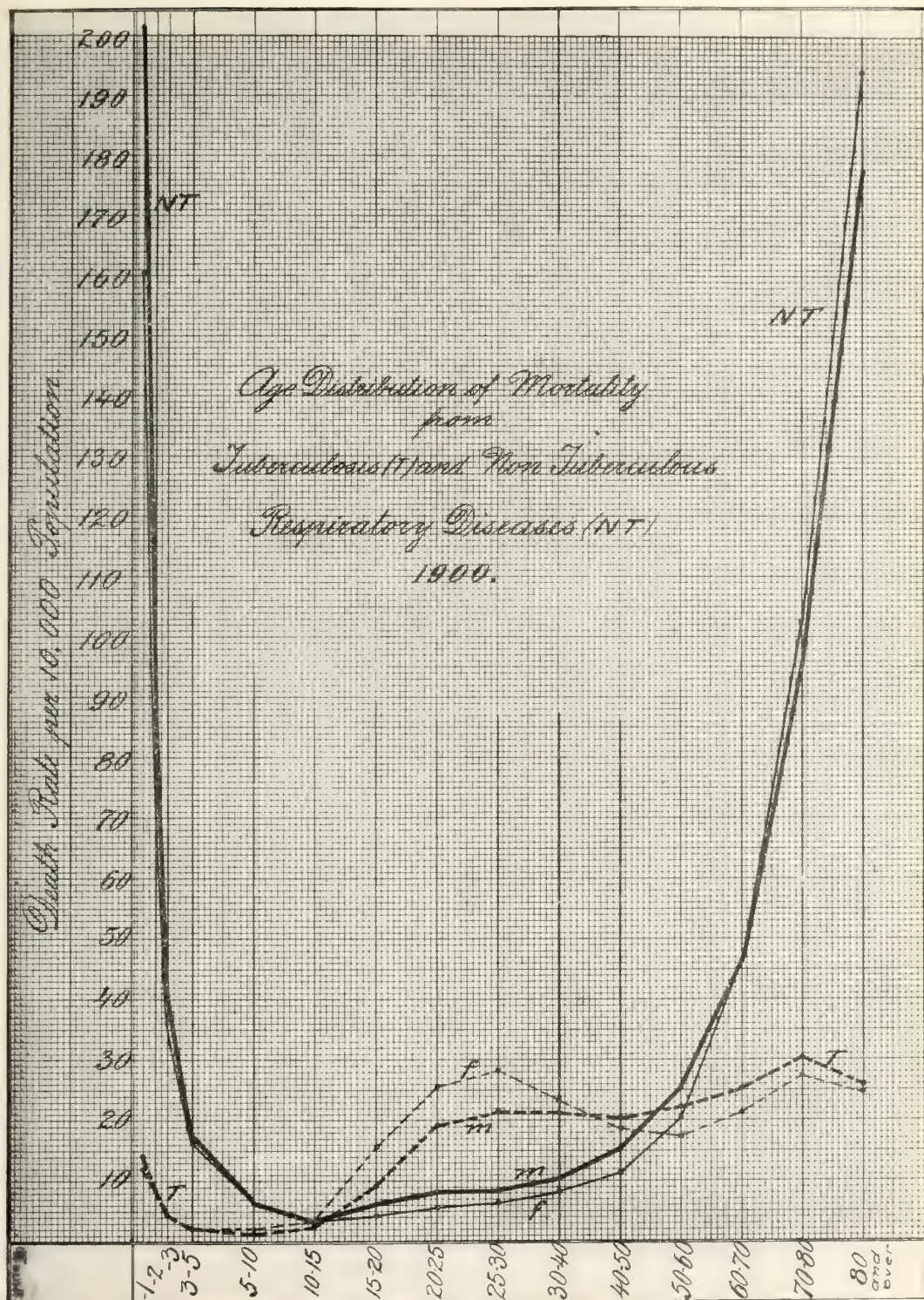


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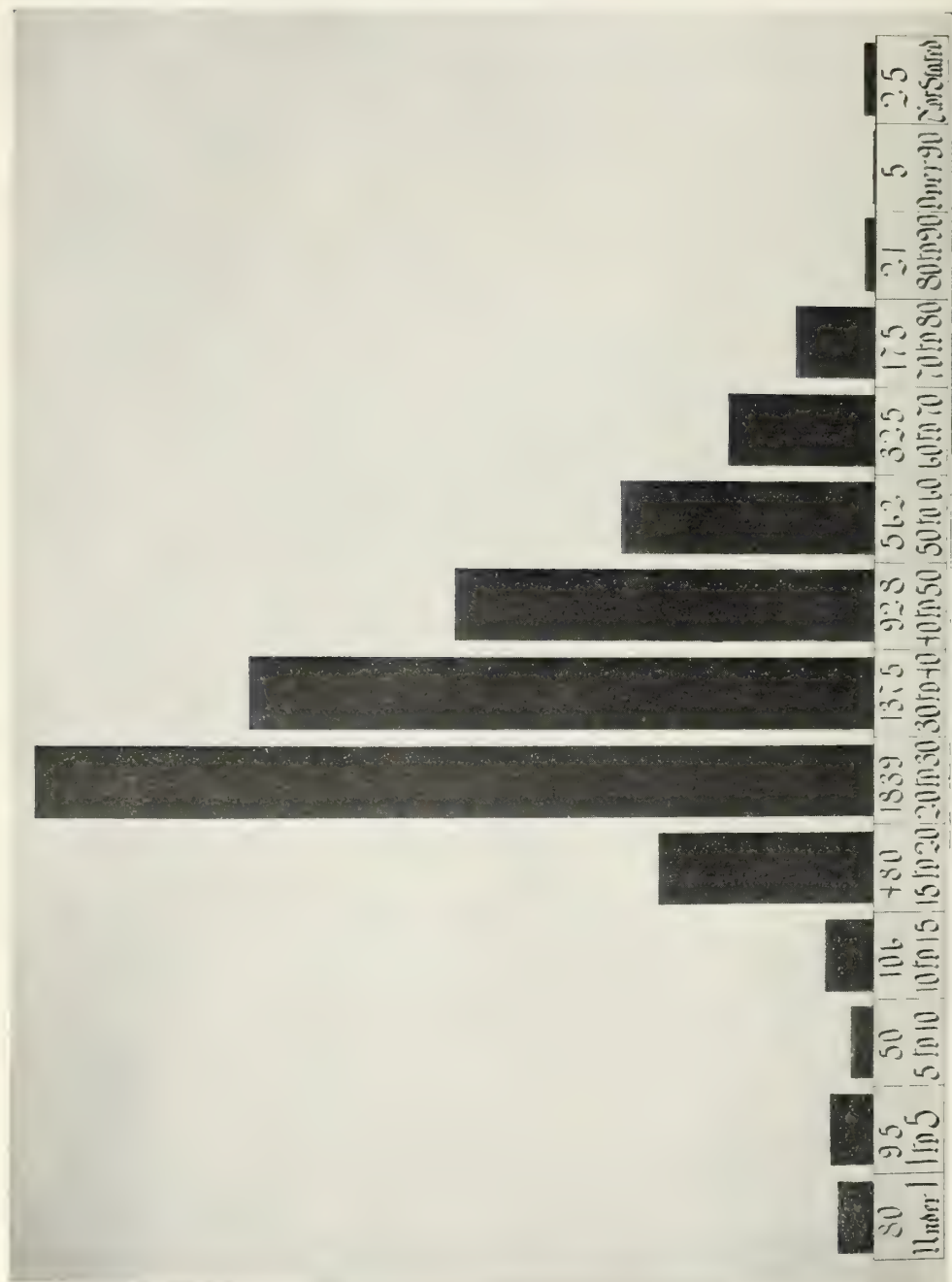
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1	ST. CLAIR	88	52	PIKE	98
2	KANKAKEE	100	53	HANCOCK	93
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4	COOK	100	55	MONTGOMERY	93
5	ALEXANDER	100	56	CHRISTIAN	93
6	WINN	100	57	BOONE	93
7	ADAMS	100	58	WHITESIDE	93
8	KANE	100	59	STARK	93
9	SANGAMON	100	60	MOULTRIE	93
10	LAKE	100	61	CASS	93
11	RANDOLPH	100	62	CUMBERLAND	93
12	MASSAC	100	63	BYREAN	93
13	PEORIA	100	64	DE WITT	93
14	MADISON	100	65	PULASKI	93
15	WINNEBAGO	100	66	MC HENRY	93
16	LOGAN	100	67	EDWARDS	93
17	JERSEY	100	68	CALHOUN	93
18	WILL	100	69	BOND	93
19	VERMILION	100	70	POPE	93
20	PERRY	100	71	MONROE	93
21	DE PAGE	100	72	HENRY	93
22	CRAWFORD	100	73	FRYETTE	93
23	STEPHENSON	100	74	WOODFORD	93
24	CLINTON	100	75	MC DONOUGH	93
25	MACON	100	76	LEE	93
26	KNOX	100	77	FULTON	93
27	EFFINGHAM	100	78	JEFFERSON	93
28	CARROLL	100	79	FRANKLIN	93
29	MARION	100	80	SHELBY	93
30	MACOM PINE	100	81	JASPER	93
31	EDGAR	100	82	CLARK	93
32	WARREN	100	83	WILLIAMSON	93
33	TAYLOR	100	84	WHITE	93
34	ROCK ISLAND	100	85	JOHNSON	93
35	PIATT	100	86	DODGE	93
36	MASON	100	87	JACKSON	93
37	LAWRENCE	100	88	MERCER	93
38	GRUNDY	100	89	MARSHALL	93
39	GALLATIN	100	90	LIVINGSTON	93
40	MENARD	100	91	KENDALL	93
41	MCLEAN	100	92	INDIANA	93
42	GREENE	100	93	SCHUYLER	93
43	WABASH	100	94	SALINE	93
44	HARDIN	100	95	OGLE	93
45	WASHINGTON	100	96	RICHLAND	93
46	JOHN JESS	100	97	FORD	93
47	COLES	100	98	WAYNE	93
48	CHAMPAIGN	100	99	HENDERSON	93
49	LA SALLE	100	100	SCOTT	93
50	BROWN	100	101	CLAY	93
			102	HAMILTON	93





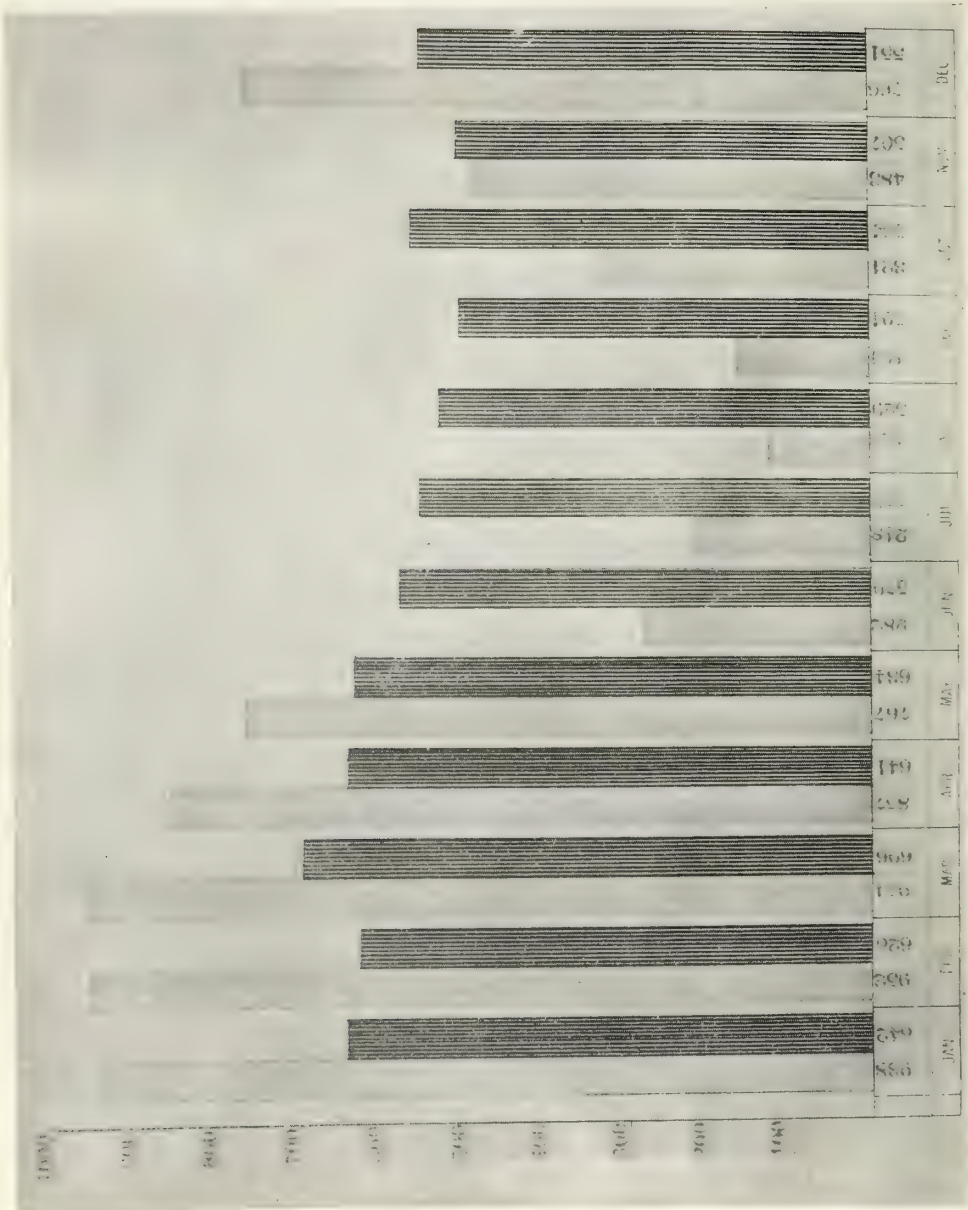




Pulmonary Tuberculosis, by Ages, 1903, in Illinois.



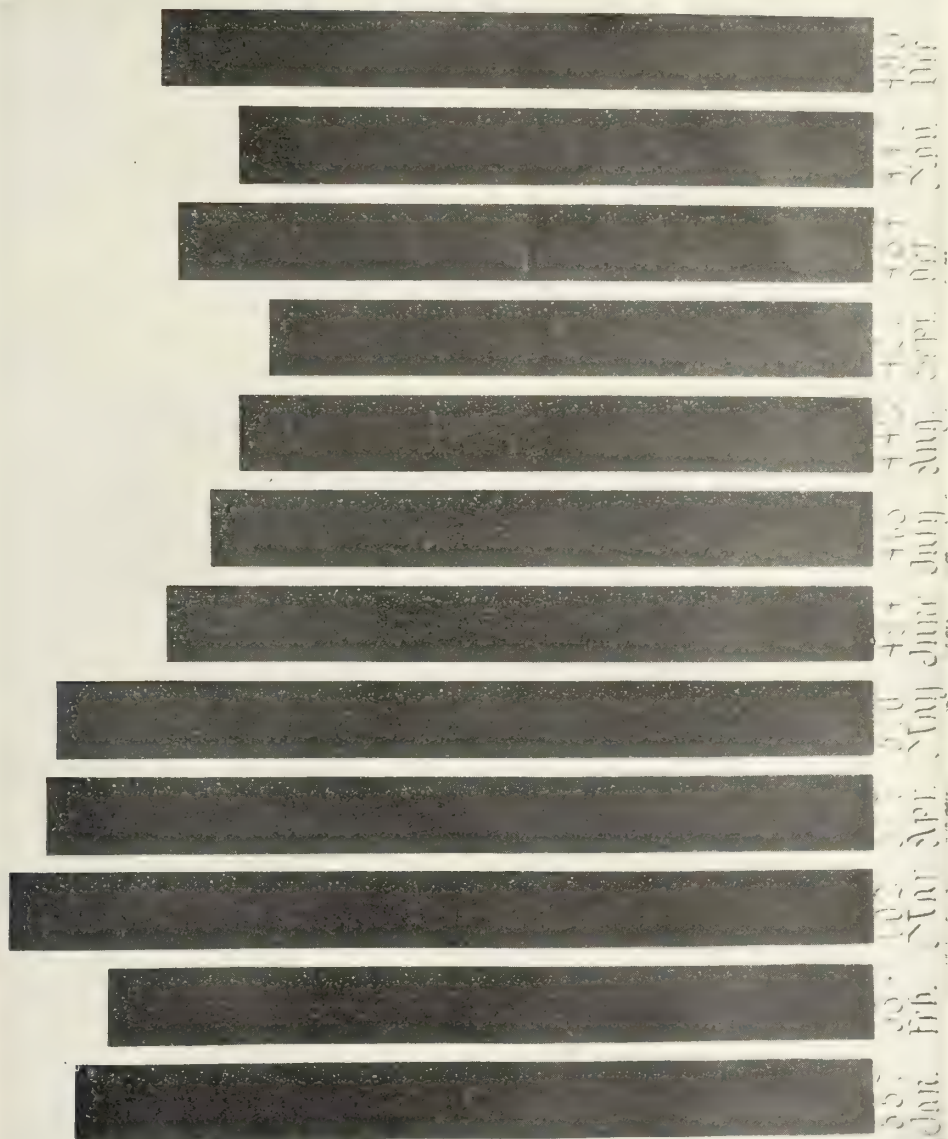
Pneumonia, Light—1903—Tuberculosis, Black. (By Months in Illinois.)



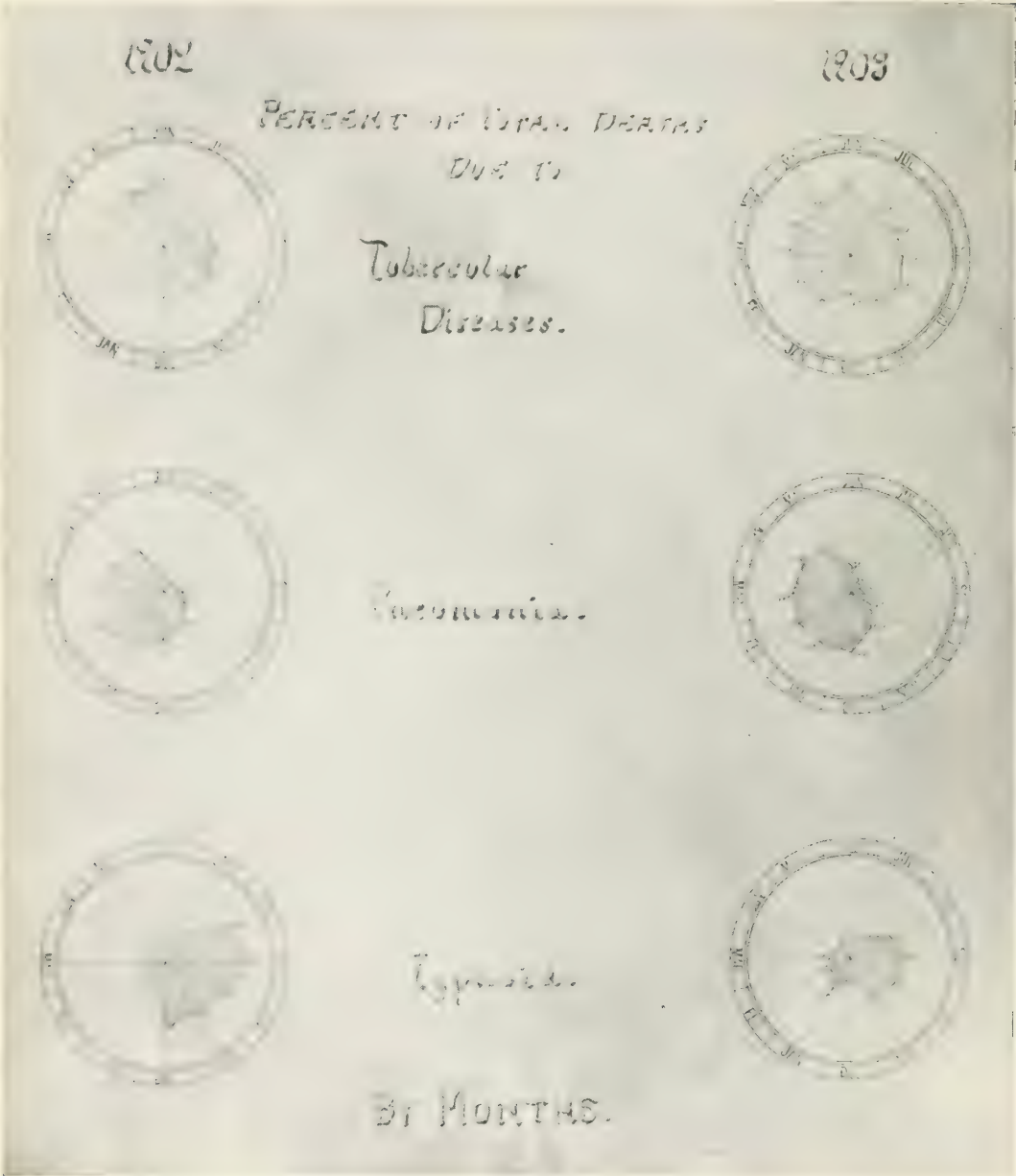
Pneumonia, Light—1902—Tuberculosis, Black. (By MONTHS.)

Table Showing Deaths from Pneumonia and Tuberculosis in Illinois in 1902.





Pulmonary Tuberculosis, by Months, 1903. State of Illinois.

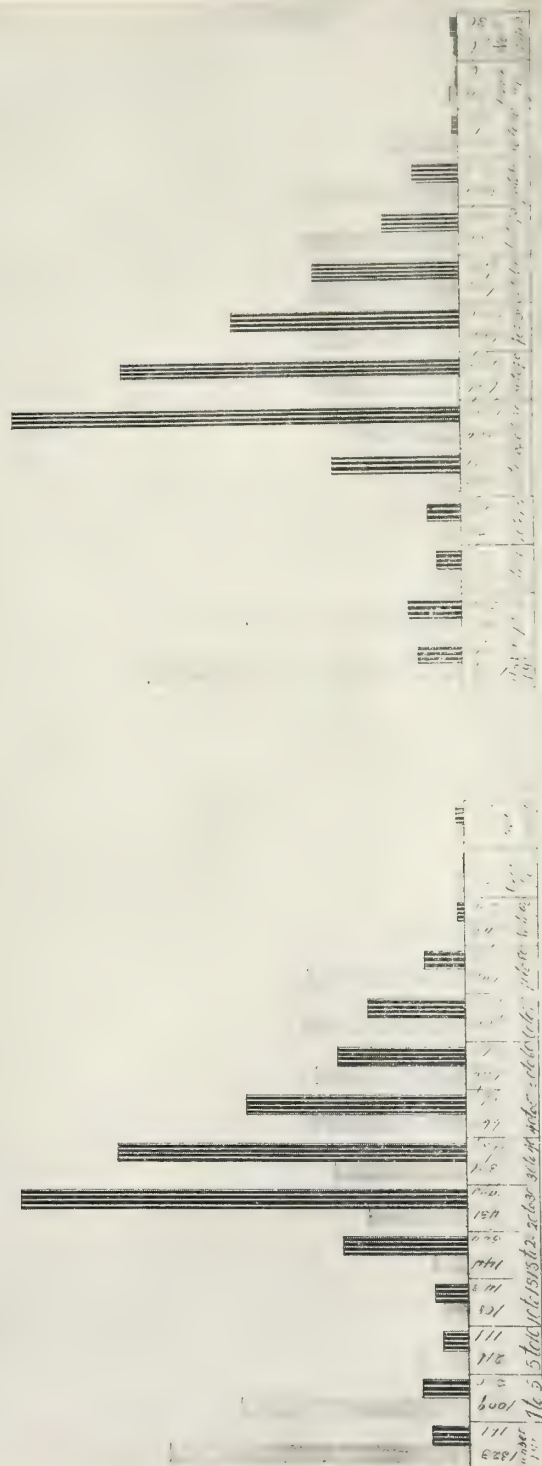


Per Cent of Total Deaths in Illinois by Months 1902-1903.

# Illinois State Board of Health Report.

## 1902.

## 1903.



Deaths from Tuberculosis, Black—Pneumonia, Light, by Ages in Illinois, 1902-1903.





Table Showing Total Deaths, Per Cent and Rate Per Thousand of Diseases in Illinois for 1903.

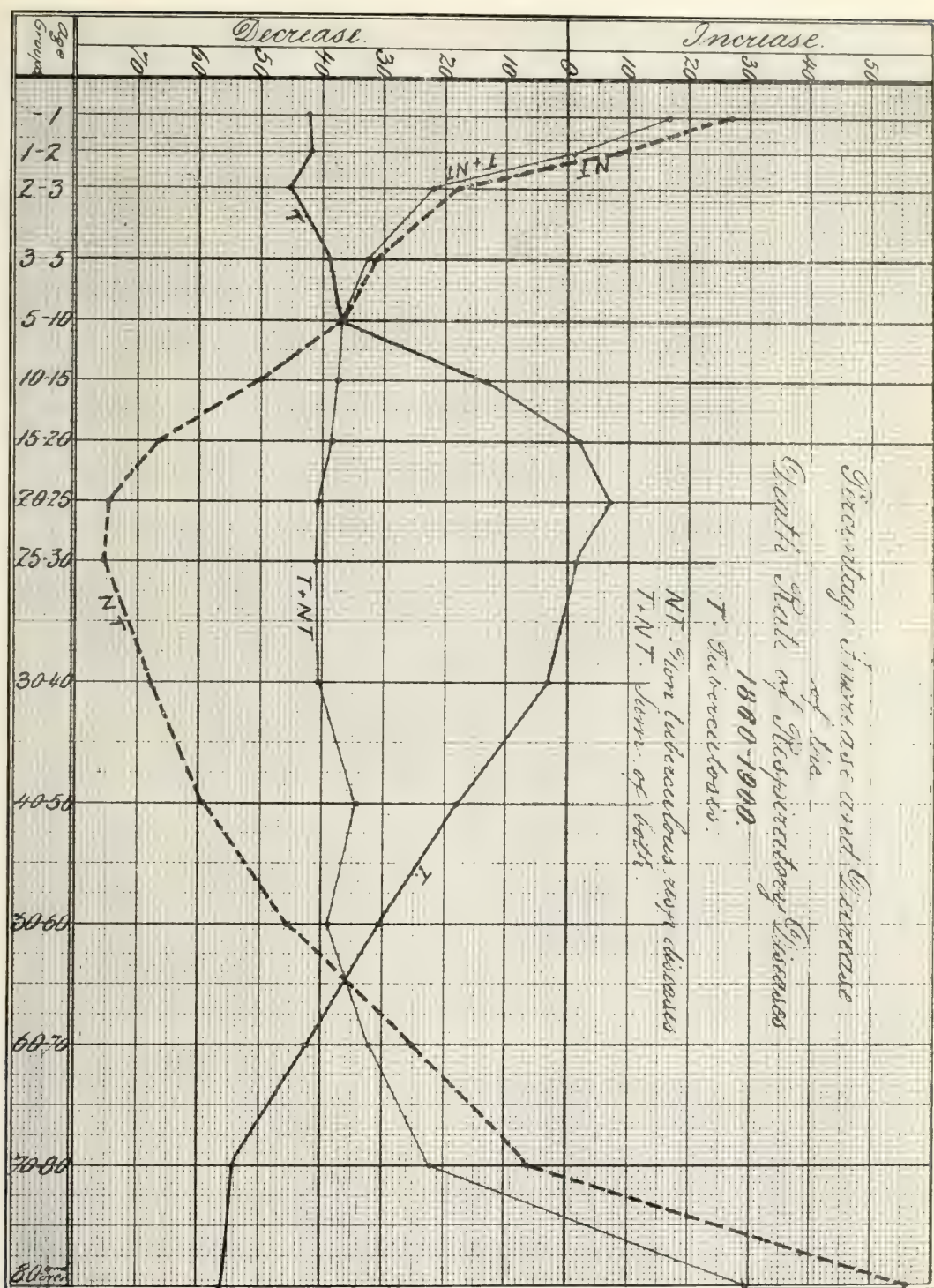


Table Showing Percentage, Increase and Decrease, of Respiratory Diseases from 1860 to 1900.

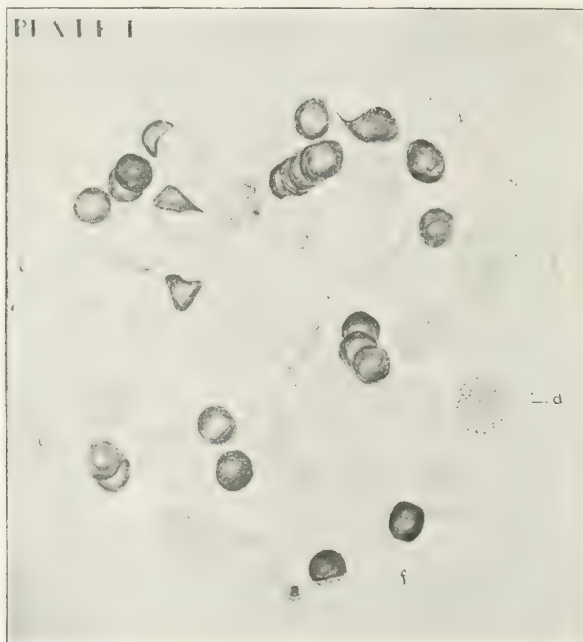
# LEUKEMIA; WITH THE CONSIDERATION OF ITS TREATMENT BY THE ROENTGEN RAY.\*

BY EVERETT J. BROWN, M. D., DECATUR.

The especial object of this paper is to report a case of splenomedullary leukemia which has been symptomatically cured by the use of the X-Ray, and to make some incidental remarks upon the diagnosis of this comparatively rare and interesting disease and its treatment by the X-Ray.

tion, where ten months ago a most pronounced case existed, yet only time will show the permanency of the result.

In the New York Medical Record for August 22, 1903, Senn reports the first case of splenomedullary leukemia successfully treated by the use of the Röntgen Ray. No further cases have been reported in the literature up to the present time. At the time of the appearance of Senn's report, the patient, whose history I give today, had been under X-Ray treatment for seven weeks.



Photograph showing condition of blood at beginning of treatment. Leucocytosis 800,000.

From the time of the first recognition of this disease a fatal termination has always been expected; yet it is known that occasionally recovery occurs, or there is an apparent arrest, either spontaneously, or after the use of arsenic; hence in recording the effect of any treatment of leukemia the word "cure" must be used with caution. Although an examination of my patient today would show an entire absence of every symptom of the disease, both by physical and blood examina-

*Patient.* W. E., male, American, aged 30. a cigar maker, unmarried; was first examined July 1, 1903. His family history is negative, except that one sister had tuberculosis.

*History.* Patient has lived in Decatur all his life; his habits have been good, he does not use alcohol, but he is a moderate smoker. He has had the usual diseases of childhood, with good recovery in all. No history of malaria or syphilis.

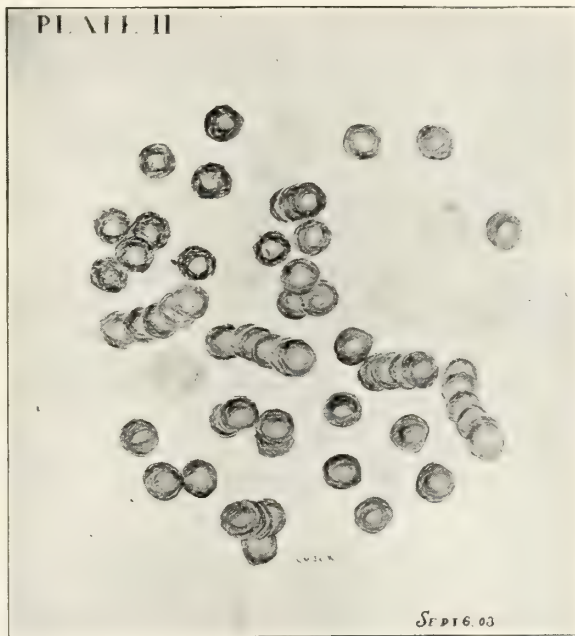
*Present Trouble.* The patient came to the

\*Read at the 54th Annual Meeting, May 17, 1904.



office complaining of weakness, pain in the back and a feeling of weight and distress in the left side. Two years ago he had a fall, alighting on the lower ribs of the left side, which compelled him to stop work for two days. He has had a slight cough for some time. For six months he has been troubled with palpitation, dyspnea and slight headaches. Lately he has noticed that his shoes fit tighter at night. He becomes very weak on exertion.

nance, the lower lung boundaries normal and descending well; heart sounds are normal; the liver dullness extends to the edge of the ribs, and its thin edge is easily felt. Splenic dullness begins on the seventh rib in the mid-axillary line and extends two fingers' breadth below the navel in the left mammary line. To the right it extends one finger's breadth beyond the median line. One palpation the spleen is a hard, smooth, thick mass. No notch can be felt. The radial pulse is



Photograph of chart showing condition of blood after two months treatment with arsenic and X-Ray.  
Leucocytosis 58,000.

*Examination.* The patient is moderately well nourished, but has a somewhat cachectic appearance. His present weight is 169 pounds, which is his average summer weight; his expression is depressed; mind clear; frame medium sized; musculature soft; panniculus thin. He is slightly anemic. The visible mucous membranes are of fair color; tongue is moist. There is slight edema of ankles and legs. The lymphatic glands are not enlarged, but the inguinal glands are easily palpated. The thorax is of good size and symmetrical; expansion fair. On percussion, one finds good reso-

easily compressed, is moderately full and regular, with a rate of about ninety. Temperature is 99.

*Examination of Fluids.* The urine gives a slight precipitate with heat and acid, and a few hyaline casts are found in the sediment. The blood examination, made by my associate Dr. C. M. Jack, is as follows: Red blood corpuscles, 2,600,000; leucocytes 800,000; hemoglobin, 65 per cent; specific gravity, 1,050. On staining with Ehrlich's triple and Jenner's stains, the reds show a slight paleness, slight poikilocytosis and many nucleated forms. The differential

count of the leucocytes gives: Polymorphonuclear, 40 per cent; myelocytes, 40 per cent; eosinophiles, 8 per cent; large mononuclear with basophilic granules, 8 per cent; degenerates, 4 per cent.

*Clinical Diagnosis.* Splenomyelogenous leukemia.

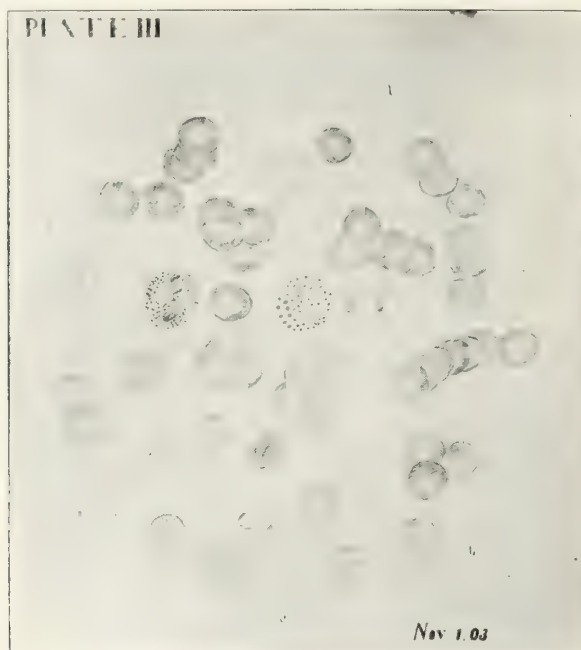
*Treatment.* The patient was informed of his condition and advised to stop work. I gave arsenic and iron internally and X-Ray treatments to the splenic region twice a week.

*Course.* After one month the patient

creased. The urine still contains a trace of albumin.

September 1. The patient has returned to work. His general condition is improved; appetite good, with a gain in weight. The spleen has decreased in size and a notch is felt for the first time. Edema of ankles is less. Blood: leucocytes decreased to 58,000, with an increase in the red blood corpuscles to over 3,000,000.

Encouraged by results of treatment, which had varied very little in the last two months,



Photograph of chart showing condition of blood after arsenic was withdrawn. Leucocytosis 137,000.

seems improved; feels stronger, and his appetite is better. On examination the spleen is apparently smaller, the right edge extending only to the sternum and the lower edge on a line with the navel. The ankles are still swollen, but the blood shows a marked decrease in the number of leucocytes with a slight increase in the red blood corpuscles and in the amount of hemoglobin. Blood smears show an apparent increase in the transitional forms with decrease of myelocytes. The normoblasts are markedly in-

and by Senn's article, which appeared at this time, it was decided to discontinue the iron and arsenic and to increase the frequency and distribution of the X-Ray exposures. These treatments were now given daily to the splenic region, the ends of the long bones, and to the sternum. In place of the iron and arsenic, one grain capsules of quinine, three times a day, were given as a placebo.

October 4th. The patient has not missed a day's work in the last month. The blood

shows an increase in the number of leucocytes; the number of red blood corpuscles and the amount of hemoglobin, however, still show an increase. The spleen can be pushed to the edge of the ribs. An X-Ray dermatitis of the splenic region has appeared once or twice, the outer layers of skin desquamating, but by discontinuing treatment for a few days and using a dusting powder, no bad results have followed. The skin over the exposed surfaces was rough at first, but after exfoliation has become smooth again. The hair and pigment have disappeared from the parts exposed.

November 9. Blood: leucocytes, 129,000; red blood corpuscles, 4,124,000; hemoglobin 85 per cent. Very little variation in size and shape of the red corpuscles and no nucleated forms were found. Myelocytes, 25 per cent; polymorphonuclear, 60 per cent; eosinophiles, 5 per cent; small lymphocytes, 1 per cent; degenerates, 3 per cent.

Blood examinations were now being made weekly and to simplify matters will refer you to charts showing the results of these examinations with dates when made.

Date.	Red Cells.	White Cells.	Hemoglobin.	Nucleated Red per 100 Whites.	Small Lymphocytes.	Large Lymphocytes.	Polynuclear Neutrophile.	Polynuclear Eosinophile.	Myelocytes.	Myelocytes.	Eosinophile.	Large Mononuclear and Transitional.	Basophile.	Degenerates.
July 1, 1903.	2,600,000	800,000	60	0	0	0	0	0	0	0	0	0	0	0
Aug. 3, 1903.	2,700,000	100,000	65	0	0	0	0	0	0	0	0	0	0	0
Sep. 6, 1903.	3,100,000	58,000	70	0	0	0	0	0	0	0	0	0	0	0
Oct. 4, 1903.	3,100,000	120,000	80	0	0	0	0	0	0	0	0	0	0	0
Nov. 3, 1903.	4,124,000	120,000	85	0	0	0	0	0	0	0	0	0	0	0
Dec. 6, 1903.	4,360,000	44,300	85	0	0	0	0	0	0	0	0	0	0	0
Jan. 3, 1904.	4,563,000	25,000	90	0	0	0	0	0	0	0	0	0	0	0
Feb. 7, 1904.	4,700,000	11,500	85	0	0	0	0	0	0	0	0	0	0	0
Mar. 6, 1904.	4,840,000	8,148	85	0	0	0	0	0	0	0	0	0	0	0
Apr. 2, 1904.	5,100,000	7,150	100	0	0	0	0	0	0	0	0	0	0	0
May 1, 1904.	5,700,000	8,921	100	0	0	0	0	0	0	0	0	0	0	0

In February, after seven months treatment, the albumin had all disappeared from

the urine and the patient weighed 182 pounds, which is more than he had ever weighed before. The spleen could only be felt on deep palpation. Treatments were reduced to every other day and the patient was advised to take long walks on the intervening days.

April 16. There is very slight edema of the legs. General appearance is excellent; color good; pulse, full and compressible with a rate of seventy.

The following notes, taken during the preparation of this paper, shows the present condition of the patient.

May 1. The appearance of the patient at present is one of most robust health. His complexion is florid, quite a contrast to the cachectic appearance of ten months ago. He is working daily and rides his bicycle back and forth from work. The liver is of normal size and the spleen is not palpable even on deepest inspiration. The ankles show no edema. His weight is 184 pounds. The abdominal parietes are relaxed, but there is no ascites. The previous inguinal adenitis has entirely disappeared.

It is well known that many cases of leukemia go unrecognized, and many mistakes are made in its diagnosis; that the tumor in the left side of the abdomen is of splenic origin, is often not determined; in women the abdominal enlargement is sometimes mistaken for an ovarian tumor or for pregnancy; in other cases a tumor of the left kidney may be suspected; syphilis with enlarged spleen has been called leukemia; the pallor has suggested pernicious anemia; the cachexia malignant disease or tuberculosis. The edema, and the albumin and casts in the urine, have caused the diagnosis of nephritis to be made. The pain in the side, the enlarged area of dulness and occasional friction sounds have suggested pleurisy. The priapism has caused a diagnosis of spinal lesion to be made.

A study of the first symptoms for which the patient seeks advise is of great interest in this disease; the following have been collected from the literature; dyspnoea, with or without pallor and cachexia; enlargement of the abdomen; priapism; epistaxis; hema-



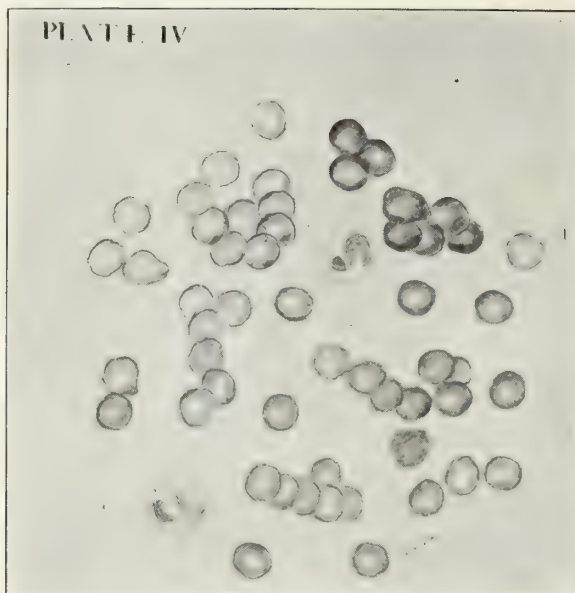
temesis; bleeding from the gums, and pain in the left side.

The diagnosis of leukemia is possible in many cases without a blood examination, although this means is liable to great error, for it is well known that the clinical symptoms of the three diseases, leukemia, pseudo-leukemia and splenic anemia may be the same. Dock says that at least one-half of the greatly enlarged spleens found in this country are due to leukemia.

The enlarged spleen may be barely palpable beneath the left costal margin or it may

prognostic standpoint: epistaxis is the most common form and in quite a number of cases reported this has been the first symptom noticed. Osler reports two cases of hematemesis in one of which there had not been the slightest suspicion of the existence of leukemia. Bleeding from the gums, hematuria or hemoptysis may occur, or there may be extensive purpura or hemorrhagic retinitis.

In the large proportion of all varieties of leukemia a blood examination establishes the diagnosis beyond doubt; with a leucocytosis



Photograph showing condition of blood after seven months treatment. Leucocytosis 7894.

be so massive as to quite fill the abdomen; it is distinguished from other tumors by the following points: the large, smooth, broad and firm mass occupying the upper left quadrant of abdomen and having a sharp angular or obtuse edge of the right border; this edge showing a notch or notches; this tumor when not too large moves with the diaphragm on respiration, and does not fill the left lumbar space, the latter remaining soft, thus differing from kidney tumors which always fill this space.

The hemorrhages of leukemia form an interesting study both from a diagnostic and

passing the 150,000 mark of which a large proportion (20 to 60 per cent) are myelocytes, the splenomedullary form is determined; while in the lymphatic form a still higher proportion of its distinctive cell, the lymphocyte, (85 to 90 per cent) is found. But in some cases of leukemia especially of the lymphatic form there may be less than 150,000 white cells and less than 90 per cent of lymphocytes, thus showing a blood examination sometimes seen in inflammatory leucocytosis or in "VonJaksch's anemia of infants." Also the ordinary mixed form will at times during the course of the disease from the

influence of some intercurrent infection, or spontaneously, or after the use of drugs, especially arsenic, show a blood picture approaching normal or at least only that of an inflammatory leucocytosis. It is well known too that the early stages of leukemia often escape detection.

To summarize: in the diagnosis of the myelocytic form of leukemia, the blood shows the following signs; first, a leucocytosis usually passing the 150,000 mark; second, a large proportion of myelocytes; third,

sary to state that it is the large proportion of these cells which are pathognomonic.

The consideration of the X-Ray treatment of leukemia is inseparably connected with that of pseudoleukemia or Hodgkin's disease. Troje, and a large portion of the French school, regard pseudoleukemia as pathologically a fore-runner of leukemia. Mosler has reported an apparently genuine instance of the transformation of the false into the true leukemia, but most hematologists deny that there is any relationship be-



Splenomyelogenous leukemia. Photograph showing size of spleen before treatment and after four months treatment.

an increase in the number of eosinophilic and basophilic cells, and fourth, the appearance of nucleated red cells, both normoblasts and megaloblasts. In the lymphatic form, the lymphocyte is the only leucocyte which is greatly increased and as stated above may reach the enormous figure of 99 per cent. Hence in the study of the blood of leukemia, the two cells forming the basis for diagnosis are the myelocyte and the lymphocyte; as both of these leucocytes are found in normal and in other pathological blood, it is neces-

tween the two diseases.

To Pusey of Chicago belongs the credit for first utilizing the X-Ray in the treatment of pseudoleukemia; before the Chicago Medical Society, on February the 26, 1902, he exhibited two cases symptomatically cured; he also reported a case of the true leukemia treated for a short time but without benefit. Since then the literature shows nearly a score of cases of pseudoleukemia treated by various physicians and with various results. In leukemia, however, only two

cases have been reported: the one by Senn and the one which forms the subject of my paper today, and which I reported in brief last month in the Journal of the American Medical Association. Since beginning the preparation of this paper, however, I have learned by private correspondence of two other cases which had been symptomatically cured by the Röntgen ray; one of these was

ten minutes with a moderately hard tube, at a distance of ten inches, and later the treatments were given daily, the various long bones as well as the spleen being exposed. All treatment was discontinued eleven weeks ago.

In conclusion I will say that the time is too short to report these cases as successful results, yet when we consider that we are

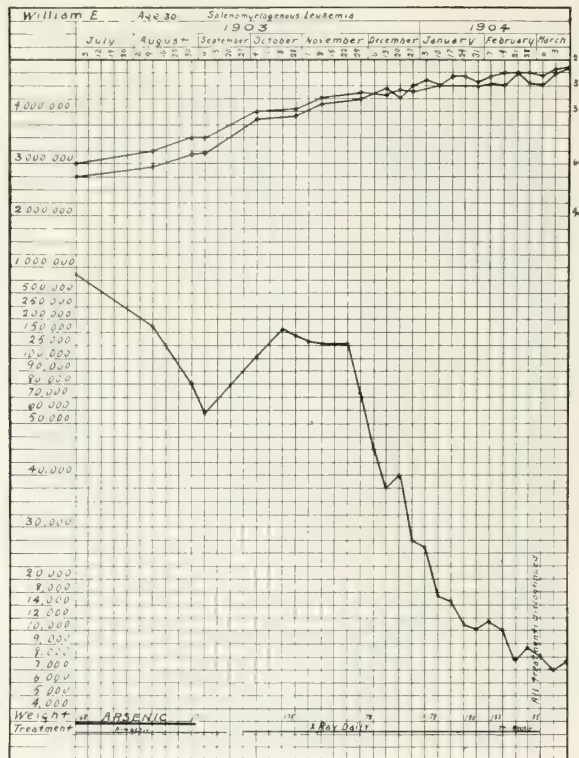


Chart showing blood count, hemoglobin estimation, weight and treatment. The upper line gives the percent hemoglobin, the next the number of red cells, and the next the number of white cells.

reported by Dr. Charles H. Webb of Philadelphia, in a paper read before the "Section on General Medicine" of the "College of Physicians of Philadelphia" on April 11th, 1904; the other case was treated by Dr. J. T. Dunn of Louisville, Kentucky, who is now preparing a report for publication.

The case I report today was treated for a period of eight months, and was given in all 106 exposures; these were given at first bi-weekly, the splenic region being treated for

treating a disease, which from time immemorial has been labeled "fatal," the results are at least encouraging.

#### Description of Plates.

These plates were photographed from plates made from actual fields.

I-II—Erhlich's triacid stain.

III-IV—Jenner's stain.

a—Polymorphonuclear leucocyte.

b—Myelocyte, with ordinary granulation.

c—Myelocyte with eosinophilic granulation.

d—Eosinophilic leucocyte.

e—Polymorphonuclear leucocyte deficient in granules.



- f—Degenerating leucocyte.
- g—Normal red blood corpuscle.
- h—Normoblast with dividing nucleus.
- i—Normoblast, polychromatophilic.
- j—Poikilocyte.
- k—Lymphocyte.
- l—Mast cell.
- m—Rouleau of red corpuscles.
- n—Normoblast.

#### Discussion.

**Dr. A. W. Baer, Chicago:** The essayist did not tell us how long he kept the patient under treatment at each seance, nor the source of his rays; what kind of a tube he used; whether he used the coil or the static machine, and if the latter, what size machine was used. These details of technic are very important, and I hope, that in his closing remarks, he will give us all of the technic followed.

**Dr. Harold N. Moyer, Chicago:** I want to add a not well observed case of leukemia I saw in consultation some months ago. I classified it as one of true leukemia. The patient improved very much under X-Ray treatments and is now almost well. The spleen, which had nearly filled the abdomen, was reduced to the margin of the ribs. No blood count was made so that I cannot speak definitely about that. The whites were enormously increased and were not within twenty thousand of the normal. The cessation of the X-Ray was followed by a relapse, although the patient did not get as bad as he was at the beginning of the treatment. The re-application of the ray was followed immediately by a marked improvement which has persisted up to the present time.

**Dr. Brown, closing the discussion:** In regard to the tube and apparatus used: I am not an X-Ray operator. I have an assistant do all that work for me so that I am not very familiar with the technic. We use a moderately high tube, usually a Gundlach, although we have used American tubes, so that we can get the action of the X-Ray on the long bones, regarding the medulla as one of the blood forming organs. In fact we treat the medulla of the bones more than we do the spleen itself, and for that reason we always use a moderately hard tube.

I use a static machine.

### THE SUBCUTANEOUS INJECTION OF PARAFFIN MORE PARTICULARLY FOR THE CORRECTION OF NASAL DEFORMITIES.\*

BY JAMES T. CAMPBELL, M. D., CHICAGO.

Professor of Laryngology and Rhinology in the Post-Graduate Medical School.

The subcutaneous injection of paraffin for prosthetic purposes was inaugurated by Gersuny (Zeit. fur Heilk.), in 1900, when he in-

jected paraffin into the scrotum of an emasculated young man.

Since then it has been employed to raise the cheek after excision of the lower jaw; to



Before Injection.

fill a cavity in bone after operation; to obtain a movable joint after resection; to fill the defect in a trephined skull; to support

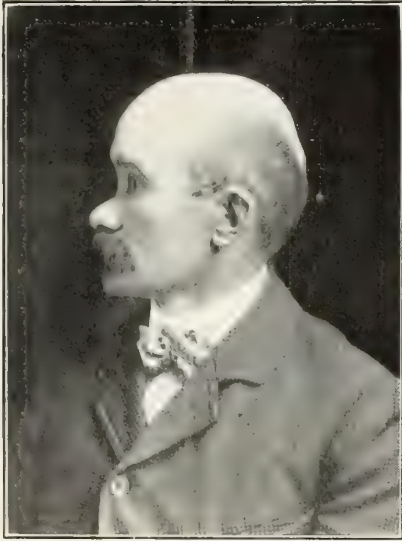


After Injection.

the weight of blood in varicose veins by making a firm swelling of paraffin around the vein; to cure incontinence of feces or incontinence of urine in the female by injecting

\*Read before the Chicago Laryngological and Climatological Association, April 18, 1904.

paraffin under the prolapsed mucous membrane; to retain a hernia; to fill out the flatness of the chest after breast operations; to raise sunken cicatrices on the face, the result of tooth suppurations in the lower jaw; to make a foundation for an artificial eye; to coapt the edges of persistent openings after



Before Injection.

radical mastoid operations; to prevent nerve regeneration after resection; to narrow a palate cleft, and to extend a shortened soft palate; to raise the membranes over shrunk-in inferior turbinated bodies in ozena; and, above all, to improve the appearance of depressed noses.

*Dangers in the Use of Paraffin* are due to faulty technic. Embolism following the injection of paraffin into a vein was first reported by Pfannenstiel (*Centralblatt für Gynäk.*), in 1902. He injected 30 c.cm. of paraffin, having a melting point of 115° F., into the loose cellular tissue of a woman suffering from bladder prolapse. Shortly after leaving his clinic she had a pulmonary embolism, with the characteristic symptoms of cough, quickened respiration, dyspnea and cyanosis. After suffering for one week, the trouble gradually subsided.

Leiser (*Vereinsbeilage der deutschen medizinischen Wochenschrift*, April 3, 1902, p. 110) reports a case of thrombus of the ophth-

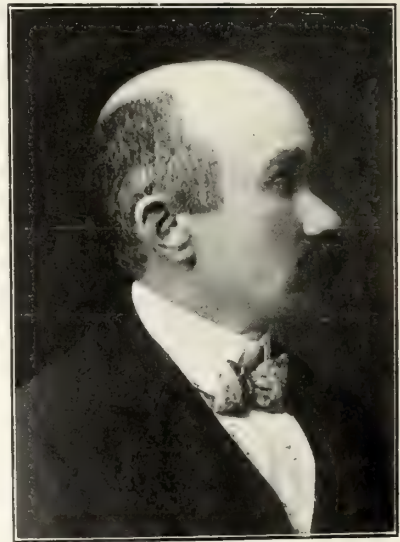
almic vein, and Hurd and Holden (*Medical Record*, July 11, 1903) a case of embolism of the central artery of the retina, resulting in loss of vision after paraffin, having a melting point of 114° F., was injected into the nose. For such a misfortune to happen, the patient must have had a patent foramen ovale.

Comstock, of the University of Minnesota, in his experiments on rabbits found that the danger of embolism is particularly great when injecting paraffin of low melting point, 102° F., and thereabouts.

Hyperinjection has caused gangrene of the overlying skin.

Abscess resulted in one case, of which I have knowledge, where the operator injected through the mucous membrane to raise the skin of a depressed nose, and though much of the paraffin escaped, yet a fair result was obtained.

In one of our cases where, at the third injection, the paraffin was placed at the root of



After Injection.

the nose, edema of the upper lids followed, but passed away in three or four days.

Urbantschnitsch (*Monatsch. für Ohrenheilk.*, No. 9, 1903) reports a case of a sluggish mastoid wound where paraffin was injected on the mass of indolent granulations. Cell activity was stimulated, and healing speedily brought about.

The greatest difficulty in injecting for the correction of saddle-back nose is to prevent undue spreading of the paraffin. In all cases some broadening of the dorsum persists, and to obviate this, soft metal clamps have been devised, with indifferent success. Noses vary so much in contour that the only practical lateral compressor is our assistant's index fingers.

Where paraffin is malplaced, it can be removed only by surgical means; locally ap-



Before Injection.

plied heat will not soften the mass; incision and curette must be employed.

All paraffins shrink; the higher their melting point, the greater the shrinkage, but the injection of a few additional drops can be made at any subsequent time.

What becomes of the paraffin? It is probable that very hard paraffins, such as that used by Eckstein, which has a melting point of  $136^{\circ}$  F., become encapsuled, whereas those with a melting point of  $104^{\circ}$  to  $115^{\circ}$  F., very slowly becoming permeated with leucocytes and tissue cells, are replaced by fibrous tissue.

Brady (*Australasian Medical Gazette*, May 20, 1903), after a lapse of six months, had to do a secondary operation, on account

of paraffin being misplaced. On cutting down, he found a mass of newly formed tissue of fibro-cartilaginous consistence.

*Preparation of the Paraffin.* After experimenting with various paraffins, we have chosen that having a melting point of  $112^{\circ}$  F. The ordinary paraffin of commerce has a melting point of about  $128^{\circ}$  F., and, roughly speaking, four parts of such paraffin, to which are added five parts of albolene, give a mechanical mixture which has a melting point of about  $112^{\circ}$  F. This is placed in a test tube, thoroughly sterilized, and laid aside till required.

*Injection Procedure.* The syringe employed, as you see, has a solid metal piston, with a coarse screw worm on the piston rod, which enables one to eject the semi-solid paraffin, slowly and steadily. The needle is of the size generally spoken of as a serum needle.



After Injection.

The syringe is boiled, the sterilized paraffin is melted in a water bath, and the field of operation prepared by scrubbing with green soap, ether and alcohol.

The paraffin is drawn into the syringe till it is about seven-eighths full; the needle is attached, and a few drops of hot sterile water are drawn up to fill the needle. This last



maneuver prevents a mass of paraffin from plugging the needle by cooling there more quickly than in the loaded barrel. The syringe is then placed in sterile water, which is kept at a temperature of 120° F., till ready for use.

The assistant now places an index finger on either side of the dorsum of the depressed nose, as high as the inner canthi, and makes firm lateral pressure, so as to prevent any malplacement of the paraffin.



Before Injection.

The needle punctures the skin one-half of an inch below the lowest point of the depression, and is carried upward subcutaneously to its upper limit. The operator then making firm pressure on the dorsum of the nose above the depression and between the assistant's index fingers, slowly empties the syringe. As the space fills, the needle is gradually withdrawn, leaving its deposit of paraffin as it recedes.

The paraffin sets quickly, hence any necessary moulding must be done at once. During injection the overlying skin becomes much blanched, reaction, however, speedily sets in, and the part becomes reddened by dilatation of the superficial vessels. This redness corresponds to the tension to which the overlying skin is subjected, and it may

persist from a few hours to many months. Inasmuch as the injection of small quantities of paraffin causes but little reaction, I am in the habit of using not over twenty to thirty minims at one time, even if the deformity is not entirely corrected, because it can be repeated at intervals of a week, until the nasal outline is satisfactory.

Except in the case of a small child, no anesthetic is required.

Where cicatricial adhesions exist, they must be divided subcutaneously, and paraffin injected at once, to keep apart the raw surfaces.

After withdrawal of the needle, the puncture is sealed with flexible collodion, and ice compresses applied to the nose for a few hours; but on using paraffin in such quantity as I mention, the reaction is so slight that it need not interfere with the patient's daily routine.



After Injection.

Where redness persists, it has been suggested that, inasmuch as the x-ray will blanch unsightly red scars by producing a hyperplasia of the connective tissue cells, which squeezes the blood out of the vessels, that it should likewise cause a speedy disappearance of paraffin erythema.

Paraffin prosthesis is now a well-establish-

ed practice, and improvement in its technic should be our earnest endeavor. The unfortunates with depressed noses are subject to remarks and stares of the thoughtless and the ignorant, with whom they come in contact. By shaping their features like those of normal men, we will earn their lasting gratitude.

1010 Venetian Building.

# SYMPHYSIOTOMY IN PERSISTENT MENTO-POSTERIOR FACE PRESENTATIONS; WITH REPORT OF A CASE.\*

BY E. B. MONTGOMERY, M. D., QUINCY.

Symphysiotomy today is so rarely the operation of choice and the indications for its performance have become so few that it seemed to me of interest to report a case in which I chose it to facilitate delivery of the child in persistent brow presentation. Here it is evident is a very positive indication for its performance that has not often been followed, as a careful search of the literature of the subject shows but very few reported cases. The only alternative operation is craniotomy, and with slight additional risk to the mother involved in a properly performed symphysiotomy, the former should not be considered in the living child if the consent of the mother for the performance of the latter can be obtained. Few mothers would prefer to have the living child surely sacrificed in preference to taking a slight additional risk to themselves and probably or at any rate possibly save its life.

My case is briefly as follows: Mrs. J. W. M., aged 37, a primipara, after a very comfortable gestation of nine months, had an escape of liquor amnii at 6 a. m., on December 6, 1903, which occasioned my being summoned. I found no evidence of labor or dilatation of the os, but pretty complete loss of the amniotic liquor. The pelvis was normal in its dimensions with a conjugata vera of 11 c.m. Labor pains began about 2 p. m., and were from that time almost continuous and so severe that small amounts

of chloroform were given by inhalation from time to time as the labor progressed. After two hours it could be determined that the child's brow was the presenting part and as dilatation was but tardy, some aid was given to that progress by manual method. No change could be made in the child's position and with the continuance of labor we had an impacted face presentation to deal with, the chin in the hollow of the sacrum. A very moderate use of the forceps soon showed that delivery by that means was impossible. At 4 a. m., in consultation with Drs. Robbins and Ernst Zimmermann it was decided, the patient consenting, to have her removed to Blessing Hospital for a symphysiotomy.

She was removed in ambulance to the hospital and at 7 a. m., after preparation of the patient, a symphysiotomy was done. An incision three and five-tenths c.m. in length was made over the symphysis in the median line, and an attempt made to sever the articulation with a strong scalpel. Owing to what at the time, was supposed to be ossification of the joint, this was not possible and a small metacarpal was used for severing the bone the subpubic ligaments being afterwards cautiously dissected from the bone with the scalpel. A metal catheter in the urethra and index finger in the vagina were used as guides. After division of the symphysis which was fully five c.m. in depth, the patient was brought to the edge of the table in the lithotomy position and the thighs abducted and supported by Drs. Robbins and Zimmermann giving a separation of six c.m. at the symphysis. I then applied the forceps and with some difficulty delivered the child which was living but so cyanotic and exhausted that despite efforts at resuscitation it did not survive but thirty minutes. No perineal laceration occurred. The child's head was less than ten c.m. in its bi-parietal diameter and delivery could easily have occurred in this mother but for the faulty presentation. The after treatment consisted in the suturing the suprapubic wound, an application of aseptic dressings. The pelvic sling advised by Ayers where his hammock bed is not available, was used after the third

\*Read at the 54th Annual Meeting, May 17, 1904.

day, this permitting better care and cleansing of the patient and producing approximation of the bones. Callus was thrown out and solid union occurred by the twenty-eighth day. During the patient's convalescence and just as she was ready to leave the hospital at the end of fourth week, she contracted a suppurative tonsilitis of severe type which was followed by a prolonged septicæmia and later nephritis which necessitated her remaining in the hospital four weeks longer. Since February 15th, she has been about and has now quite recovered her usual health. Her gait has been quite unaffected by the operation.

While I do not in general favor symphysiotomy as an operation of choice, in moderately contracted and deformed pelvis to permit delivery of the child at term, I think that in unchangeable brow presentation where the only alternative is craniotomy of the living child, we have a positive indication for its performance provided the patient is willing to take the slight additional risk involved. Still it does not seem to have been done in these conditions often. Edgar says in his recent work on obstetrics "in the past most authorities agreed that perforation is the indication of necessity even in the living child. Symphysiotomy has been suggested as applicable to this complication. I do not know that it has ever been applied." The American text book on obstetrics as well as those of Drs. J. C. Webster and Whitbridge Williams coincide with Edgar's opinion, but give no record of any clinical cases. The only literature bearing on the subject with report of cases that I could find by the aid of the index medicus, is the paper by Wallack on "Symphysiotomy in Persistent Brow Presentations," published in the transactions of the Paris society of obstetrics, gynaecology, and pediatrics, for January, 1902. Wallack's study covers nineteen cases, all of them occurring in Pinard's clinic in Paris. His conclusions are as follows: Dystocia caused by persistent frontal presentation, is very grave, when plainly distinguished from *transitory* presentations of the forehead. In nineteen cases parturition was spontaneous in two cases only; the uterus was lacerated

twice, the vagina once; two women died, as well as eleven children. None of these cases were treated by symphysiotomy but seven since 1894. Dystocia from persistent presentation of the forehead was observed when the pelvis was normal and when dimensions of the fetal head were not increased. Eight times the conjugate diameter was more than ten c.m. Four pelvises were entirely normal. In fourteen out of the nineteen cases the pelvis was considered normal and only four times was the conjugate diameter more than ten c.m. The bi-parietal diameter of the head attained ten c.m. in but one instance.

These facts, Wallack says prove that it is the defective presentation of the head that cause the dystocia much more than the respective dimensions of the head and pelvis. As regards the results in Wallack's nineteen cases they are as follows: In the twelve cases not treated by symphysiotomy, there was a maternal mortality of two or 16 per cent. The fatal results having been due in one instance to rupture of the uterus after intervention of the forceps and in the second to uterine rupture following version. Seven of the children died or fifty-eight per cent. Study of these cases shows the danger of manual intervention, of reduction and the uncertainty of the result when one begins with forceps or a version in these cases. Of seven the cases treated by symphysiotomy, there was no maternal mortality, and a fetal mortality in two cases or twenty-eight and five-tenths per cent. These figures are certainly indicative of the superior results attained by the use of symphysiotomy in cases of this kind.

While it may not be becoming in one who has only had one case to express opinions as to the technique of the operation, I will venture to express some for the purpose of eliciting discussion. My operation though made in the median line was evidently an extra median symphysiotomy the joint being most frequently found according to those who have carefully investigated the matter to one side or the other of the median line. What we supposed to be the ossification of the joint was the result of our not having found it. This, however, I do not regret, as I believe



that better union resulted from the division of the bone than from incisions through the joint. If it ever became necessary for me to do this operation again, I should choose the extra-median symphysiotomy as done by Gigli and make use of the Gigli saw. Vande Welde, who writes of this operation in the "Wiener Klinische Wochenschrift" for September, 1903, had only been performed twelve times up to April, 1903, all the mothers recovering with perfect gait. The Gigli saw was used in all these cases according to the method described by Gigli in the bulletin of the Italian Society of Obstetricians and Gynaecologists. He makes an incision from the spine of the pubis obliquely downward to the point where terminates the pubic ligament. It is not necessary to expose the bone completely. The upper edge between the two recti and a strong needle is inserted between the bone and passed downward guided by the finger in the vagina until the tip emerges at the lower angle of the incision in the soft part. A thread is passed through the eye of the needle and the wire saw is drawn through beneath the bone by this means. No vessels will require ligating.

In the absence of the hammock suspension bed described by Ayers, Vol. 36, American Journal of Obstetrics, I can commend most heartily a simple pelvic sling suspended from the ceiling and attached to a compound pulley such as used in suspending patients upon the application of the plaster paris jacket. Indeed in the after care of the patient I deem such suspension almost indispensable to her comfort and to facilitate the work of nursing.

#### Discussion.

**Dr. Henry F. Lewis, Chicago:** Mr. President—I think the essayist is to be congratulated on the good results obtained in his case, and on the fact that he selected as the alternative symphysiotomy. His case was similar to one seen jointly by Dr. Denslow Lewis and myself; the patient was operated upon by us, and the case reported by me in 1901, in a symposium on dystocia, which was then given before this Society. It was a similar brow presentation, with chin posterior and impacted. I believe symphysiotomy is preferable to the only other alternative, craniotomy in such a case. Caesarean section is out of the question after the head becomes impacted in the pelvis. In our case the child is living. I do not know

whether the essayist said the child was living in his case or not.

**Dr. Montgomery:** It was.

**Dr. Lewis:** There can be no question but that the danger of symphysiotomy to the mother is greater than that of craniotomy; but I think, as the essayist has said, most women would prefer to take the added risk than to have the absolute certainty of a dead child, that is, assuming that the child is living, or that we do not know the child is dead. Dr. Montgomery did not state how delivery took place afterwards. He put on forceps, I suppose, and the chin rotated anteriorly as it did in the case we had. The symphysiotomy gave room for the anterior rotation of the chin.

I am very glad to have heard another case like this reported, and am extremely pleased to have had the opportunity of listening to the doctor's excellent paper.

**Dr. Albert Goldspohn, Chicago:** I have once before in a discussion reported a case of symphysiotomy which was done some five years ago under rather extreme conditions. The patient was a badly deformed individual, with very much contracted pelvis, who had been treated by medical men who were not surgeons in an attempt to induce abortion or premature labor for a month. These attempts were not successful, and then several others tried to deliver by forceps. The reports that I received in regard to the case were that the patient had been anesthetized three times, and an attempt with forceps had been made twice, with rather undue force. I saw the patient at about two in the morning, when she had a temperature of 102° per rectum; pulse 140, with the soft parts so edematous as to really efface the normal anatomy of the parts in this region, and I was prompted to do a symphysiotomy. At this time symphysiotomy was more talked of and in favor than it is now by obstetricians. The operation was not particularly difficult. There was some hemorrhage, which was controlled without any uncertainty. The delivery was easy, with a separation of the symphysis of about two to two and a half inches, the spread being limited by a strong assistant who held the pelvis together. The child lived two hours after the operation. The mother recovered.

She had as good a walk as she ever had before the symphysiotomy. The symphysis was wired.

In the discussion of this case heretofore, I was criticized by some obstetricians who contended that it was not a case for symphysiotomy; that perforation should have been made, and yet I have not been able to see the force of their criticism. If I had had any positive knowledge that the child was dead, then perforation would have been indicated. While I could not make out that the child was living from the condition of things, as the fetal heart could not be heard, yet I had strong reason to think that the child was living and it proved so. The cause of death of the infant, as autopsy afterwards revealed, was a laceration of the longitudinal sinus that someone had made who had applied forceps with undue force. So

in the absence of this injury from the forceps. I think the child could have recovered also. In spite of the criticism of that case, I have the firm conviction that if I had done abdominal section or vaginal Caesarean section, I would have a dead woman, considering the extremely bad condition she was in when I took hold of her.

### REPORT OF THREE CASES OF PENETRATING WOUNDS OF THE CHEST, INVOLVING THE DIAPHRAGM AND ABDOMINAL VISCERA.\*

BY DANIEL H. WILLIAMS, M. D., CHICAGO.

The following cases are of interest as they present some of the types of penetrating wounds of the chest infrequently met with, and departures in treatment not generally advocated.

The first is a gunshot wound, the ball striking the eighth rib, perforating the diaphragm, bisecting the left kidney from pole to pole, cutting the ureter and trunk of the renal artery, and lodging in the erector spinae muscles.

G. D., Irish, age 24. Admitted to Provident hospital, July 29, 1902, 10 p. m. Shot in the left side while stooping over. Examination on entrance, temperature 97°, pulse 88, small and compressible, skin pale and cold, with profuse diaphoresis, marked dyspnea and apnoea.

Complained of pain on inspiration, over the left side of the chest. Blood oozing from wound in eighth intercostal space, two and one-half inches anterior to the left mid axillary line. Vomited frequently until anesthetized. Heart, pericardium and large vessels negative as far as could be learned. Dullness below third intercostal space.

There were no indications of injury to the diaphragm or abdominal viscera, and from the fact that he had been shot through the eighth interspace, would almost exclude abdominal complications. Balls do not turn corners unless they come into contact with some hard substance. The ball had passed through the eighth interspace, and it was fair to conclude that its course would vary but little from a straight line. The omen-

tum had plugged the wound in the diaphragm, and the abdominal and pleural spaces were temporarily normally separated.

Following the practice of examining the urine of all emergency patients, while on the table, it was found that the bladder contained twelve ounces of bloody urine. This directed attention to the kidneys and abdomen. Examination of the abdomen showed muscular rigidity on the left side, and absolute flatness from the twelfth rib into the flank, and the absence of abdominal respiration, a very important sign in men of a peritoneal lesion.

The bladder was washed out, and a second catheterization made, and blood found again. As only one ball had entered the body it was concluded that the abdominal viscera had been injured through the wound in the eighth interspace, and operation was indicated.

*Operation.* Incision followed the angle of the eighth rib, five inches long, tissues raised and retracted, sub periosteal resection of about three inches of the seventh and eighth ribs. This gave ample space to reach any part of the diaphragm.

The wound in the diaphragm was treated by a purse string suture of silk, after the manner suggested by Senn in perforating wounds of the stomach. Over this a continuous Lembert suture. The pleural cavity was irrigated with a salt solution, wound closed, and the air aspirated with a Davidson syringe. At this point the treatment of traumatic pneumothorax forces itself into prominence as a factor in estimating the result of the case in hand. In some cases the symptoms from this condition are grave, in others mild. The aspiration of the air from the cavity, a good firm strapping of the chest with plaster, have eventuated in all of my cases in success.

Following out the investigation of the perforating wound in the diaphragm, an incision seven inches long was made to the left of the median abdominal line. The intestines and organs were examined with negative results, excepting a bullet wound in the upper inner surface of the kidney. This was closed with continuous suture of catgut, with

\*Read before Chicago Medical Society, June 16, 1904.

the idea of protecting the peritoneum from infection incident to any procedure on the bleeding kidney. An oblique incision was made in the left loin, for the purpose of investigating the kidney. When the lumbar fascia was reached it was found bulging into the wound, and the space dark with extravasated blood. On incising the lumbar fascia, there was an escape of dark clots, followed immediately by profuse arterial hemorrhage. Temporary deep pressure by tam-

perature 98°, pulse 92, good quality. Complained of pain in, and about the wound, and in the left abdomen. Short, shrill, hacking cough. Unable to lie down. Extreme dyspnea, due to pulmonary collapse. Slight cyanosis. No hemorrhage from wound, on account of valve action of its margins. Heart normal. Dullness over the left abdomen. Slight muscular rigidity. No positive signs of hemorrhage into the abdomen.



Case I.

pon controlling the hemorrhage until the kidney was separated from its surrounding fat, and followed down to the ureter, which, with a large trunk of the renal artery was found to have been cut by the ball. The kidney was removed. He made a slow but perfect recovery, and remains well more than a year after.

2d. Stab wound of the chest, through the eighth interspace and diaphragm, and into the spleen. This case adds one more to the very few recorded of successful suture of the spleen for traumatic hemorrhage.

Patient, Alfred C., age 27. Admitted to Provident hospital, July 30, 1902. Discharged well, August 30, 1902. Was asked to see and operate upon him by Dr. A. W. Williams. Examination on admission, tem-

At this examination there were no indications for immediate operation. This was one of that class of cases usually treated on the expectant plan, and always results in death. From this case, which proved the most interesting and instructive that I have ever met, many useful lessons have come.

After watching the patient for an hour, I concluded to operate on the progressively urgent indications. The pulse had increased from 92 to 140, with lessened tension. Profuse diaphoresis, increased dullness in the left abdomen, with extreme muscular rigidity, and a leucocytosis of 3000, his symptoms all pointing to active hemorrhage.

*Operation.* Incision following the angle of the eighth rib, retracted over the ninth, resection and method the same as in case one.



The wound in the diaphragm was one inch in length, and firmly plugged with omentum; this was reduced by clamping with a pair of forceps, and carried into the abdomen.

Wound in the diaphragm was closed, also the costal resection. The skin incision was extended downward over the left lateral abdominal wall, into the cavity of the abdomen, which was found full of clots and free arterial blood.

Slight traction on the gastro-splenic omentum enabled me to deliver the spleen on to the abdominal wall for examination. It bled profusely from an incised wound extending from the phrenic to the lower part of the organ. To control the hemorrhage, a turn of gauze with a drawn loop, was put about the pedicle. Here I was confronted with a bleeding spleen. How should it be treated?

My first attempt at suture ended in complete failure by tearing out as I endeavored to draw the suture down. I therefore changed my method by selecting a full curved, round, Mayo needle threaded with No. 2 catgut. This I introduced one half inch from the margin of the wound edges, and without the least force, allowed the needle to follow its full curve, emerging from the opposite side of the wound the same distance as it entered, and making a triple loop without a re-enforcing knot. Hot gauze compresses were held on each loop as the edges were approximated, with the idea of causing the catgut to swell and engage opposing fibres, so as to make a firm line. Every suture put in this manner held firmly. After watching it for twenty minutes I returned the spleen to the abdomen, and surrounded it with omentum, a very important part of the detail, on account of its well known property of protection. The patient made a rapid and permanent recovery. He left the hospital in three weeks.

3d. This case is added to show the variance of penetrating wounds of the chest. This special type of penetrating wounds below the fifth interspace on either side, should impress itself as a most formidable and usually fatal injury. They are wounds that

it is positively impossible to diagnose until perhaps it is too late, without an exploratory incision, and an exploratory incision here, is just as necessary as it would be in a stab wound of the abdomen.

J. P., age 30. Referred to me by Dr. A. B. Schultz. Stabbed July 30, 1903, through the sixth interspace, one inch anterior to the nipple line. Temperature  $97^{\circ}$ , pulse 110, fairly full and regular. Respiration 40, skin cold and clammy. Heart and lungs negative, except below the sixth rib, from which dullness extended downward to the tenth rib. Abdomen negative, arterial blood escaping from the intercostal vessels. As we could get no reliable history of the extent of the wound, exploratory operation was decided upon. Incision four inches long, following the curve of the sixth rib, retraction of tissues, and subperiosteal resection as described in case one.

On opening the pleural cavity, the patient was dangerously cyanosed on account of the pulmonary collapse, and inability of the right heart to accommodate itself to the emergency.

Two perforating wounds of the diaphragm one on the outer or pleural side near the dome, and one in a direct line on the inner or pericardial side were found. Also an irregular wound of the pericardium. No injury to the heart. The diaphragmatic wounds were treated with purse string silk suture, over this, a continuous Lembert. The opening in the pericardium was united with fine silk, the pleural cavity irrigated, and the costal opening closed. I continued the incision below the diaphragm, and carefully explored the abdomen finding a punctured wound of the transverse colon. This is the only safe practice following penetrating wounds of the diaphragm.

The findings in this case, without symptoms special to any organ or viscera within stabbing distance of the walls of the thorax, again impresses one with the necessity of investigating selected cases of penetrating wounds of the thorax. Had not this case been early operated upon, it is fair to presume that the patient would have died. He recovered.

## THE PNEUMONIA PROBLEM.\*

BY ARNOLD C. KLEBS, M. D., CHICAGO.

The very prevalent impression among the profession and laity, that the death-rate from pneumonia has of late reached most threatening dimensions, has induced me to study the facts at hand more closely and I have reached certain conclusions, previously reported (*American Medicine*, Vol. VI, No. 24, and *Illinois State Medical Journal*, Nov., 1903). I pointed out then that a comparison of the total death-rates only of successive years had very little value and that it was absolutely necessary to analyze the distribution of deaths in the various age groups and for the two sexes. In comparing the death-rates in the various age groups given by the two census years 1890 and 1900, I found that a very considerable increase of the death-rate from pneumonia had occurred in early childhood (especially under one year of age) and also in old age, but that there was a decrease between the ages of 5 to 65. This same astonishing result I found also in comparing statistics from American cities and from abroad, in fact this condition seems to be existing everywhere to judge from the statistics from places far apart; of course in a more or less pronounced degree. The point that the increase from pneumonia affects only those under five and above sixty-five years of age has not been realized at all, which in view of its very great importance is rather astonishing.

It is of course evident under these circumstances and I called attention to it, that when we speak of the pneumonia death-rate, this does not throw any light whatsoever on the death-rate from croupous, fibrinous pneumonia. The term pneumonia embraces broncho-pneumonia and capillary bronchitis and probably other ill-defined pathologic conditions of the respiratory organs especially in childhood and old age. It is therefore evident that in speaking of a pneumonia problem, the underlying factor is not one disease but several, which have in common chiefly the location in the respiratory system

and certain symptoms of an acute infectious disease. Furthermore I showed that the prognosis of croupous pneumonia in childhood being very good, this disease could not be responsible for the increase of the mortality at the ages under five. Other observers (Townsend and Coolidge, Mays) have also shown at the hand of hospital and general mortality statistics that the apparent increase in the death-rate from lobar pneumonia is deceptive for various reasons. I showed that the average death-rate from this disease in hospitals was 22.3% (Fraenkel in his recent work gives 22.6% for his hospital) which considering the fact that the worst cases are sent to the hospitals and often late, does not speak for a great malignity of the disease, which is also borne out by the much lower mortality figures reported from private practice and military hospitals.

Since the publication of these investigations Ascher published the results of his very thorough study of similar conditions in Prussia (*Berliner Klin. Wochenschrift*, 1903, No. 44). He also noted the very marked increase of the mortality from acute respiratory diseases in childhood and old age and the corresponding decrease from tuberculosis in these age periods. Already before Ascher's essay came to my notice I had concluded that in order to have a full understanding of this so-called "Pneumonia Problem" it was necessary to study the death-rates from all acute respiratory diseases in the various age groups and the two sexes. I have therefore computed for the five last census years 1860, 1870, 1880, 1890 and 1900, for both sexes and for the various age-groups the death-rates per 10,000 population from non-tuberculous respiratory diseases, and from tuberculosis. Following Ascher I will call the former N. T., viz. non-tuberculous respiratory diseases and T.=tuberculosis, the sum being T.+N. T.=all respiratory diseases viz. acute and chronic. The group N. T. comprises for the years 1900, 1890, 1880 and 1860 the following: "Pneumonia, laryngitis, bronchitis, pleurisy, croup and asthma and other respiratory diseases" for 1870 "hydrothorax" in addition. The group T. includes "Consumption and scrofula."

\*Read at the 54th Annual Meeting, May 17, 1904.

The comparison of the two groups of the acute and chronic type seemed to be especially indicated on account of the opinion which has been expressed that the problem of pneumonia has superseded that of tuberculosis. Such opinion is necessarily based upon the fallacious argument induced by a comparison of the total death-rates only. It does not take into account the fact already alluded to that pneumonia is a fatal disease chiefly in childhood and old age, while tuberculosis is extremely fatal in adult life and which is of the greatest importance, that it disables its victims for a very considerable period before death. It must therefore seem that if pneumonia is to supersede tuberculosis as the principal cause of death this could only be a boon to humanity. If all those that now die of tuberculosis were to die of pneumonia the economic loss would be infinitely smaller.

The statistical comparison of tuberculosis with non-tuberculous respiratory diseases gives very similar results as those previously made with pneumonia. The age curve (Chart I) see page 361. [This chart, by its heading, is erroneously attributed to the paper of Dr. Webster for the acute diseases] (N.T.) shows for 1900 and I may say here that the conditions are the same in other years, an enormous mortality under one year of age. From that highest point the curve rapidly descends, reaching its lowest point at the ages of 10 to 15 years (the curve for females being slightly lower). Then it very gradually rises to the ages of 50 and 60 years from where it ascends rapidly again to a point almost as high as that in childhood, the female curve being somewhat higher. The curve for tuberculosis begins with a descent from the somewhat higher points in early childhood to its lowest point, the same as the N. T. curve at the ages of 10 to 15, from where it ascends quite rapidly, remaining at a level (female higher) during the adult age period, ascending some more beyond 60 years. This curve very admirably illustrates the fact well known to statisticians and pointed out by Ascher, that the resisting power is greatest during school age and decreases in a constant ratio towards the infantile and old age period. It also shows a fact not at all under-

stood, the enormous mortality from non-tuberculous respiratory diseases in early childhood and old age. The grave danger which tuberculosis exerts in adult life in spite of a constant decrease in its general death-rate is also demonstrated.

For the purpose of studying the differences in the death-rates from the two groups of respiratory disease I have drawn curves (Chart II) see page 369. [This chart is erroneously attributed by its heading to the paper of Dr. Webster] representing the increase and decrease in percentages between the years 1860 and 1900. The curves show an apparently constant inter-relationship of the two disease groups. Throughout the different age groups we note that, firstly the two groups of respiratory diseases have distinctly decreased at all ages, except below 3 and above 70 years of age; secondly that the curve for non-tuberculous respiratory diseases follows practically the same course, only in a more exaggerated degree and thirdly, that the tuberculosis curve, although showing a decrease in almost all age groups does so to a distinctly lesser degree in adult life, there even having been an increase between the ages of 15 and 35. We are therefore forced to admit a constant inter-relationship between the death-rates of these two diseases, viz., as tuberculosis decreases the other respiratory diseases increase, and the decrease of the one takes place in the same age periods where there is an increase from the other. That the death-rate from non-tuberculous respiratory diseases (the group of pneumonia is about 75% of these) will within appreciable time assume such proportions as to threaten uniformly all age periods and especially adult life seems most improbable from a careful analysis of a great many figures from various sources at hand. But the distinct increase of the death-rate in childhood merits attention and its causes should be studied from various points of view.

In this direction no progress will be made as long as total death-rates merely are compared and as long as those whom we have put in charge of the public health use inadvertently such sensational phrases as the



"murderous" pneumonia season and the "frequency and fearful destructiveness of pneumonia," causing general fears without even attempting to investigate underlying conditions, which may be of help in the improvement of the conditions. It is on the necessity of further investigations on this subject that I wish to lay emphasis. I have only been able to investigate and give you some important facts which merit consideration, but a great many other factors especially social ones will have to be studied before we can receive definite suggestions as to preventive methods.

The study of these figures and others brings forth one rather discouraging fact, that in the treatment of respiratory diseases we have not achieved great results. Townsend and Coolidge have already demonstrated by their investigations of the results obtained by the various methods of treatment employed at the Massachusetts General Hospital in Boston, that through the 64 years the mortality-rate of pneumonia (lobar) has not been influenced under heroic treatment before 1850, transitional between 1850 and 1860, and expectant and sustaining since 1860.

On the other hand an attempt has often been made to explain the reduction of the death-rate of tuberculosis to the enforcement of direct preventive and especially anti-bacillary methods. In view of the fact that this reduction began before the period of specific preventive efforts, such conclusion can only be partially true, and it is much more likely that the general economic improvement and better domestic hygiene are more directly responsible factors, which in future efforts must not be neglected. The solution of the "Pneumonia Problem" is in my opinion not to be found in those anti-bacterial measures only, for which some health authorities clamor with an energy worthy of a better cause. The fact which I believe I have first demonstrated in this country, that the increase from pneumonia falls into early childhood and old age ought to direct specific preventive efforts. By what methods this is best done only further investigations into the indirect causes may suggest.

#### Discussion on Dr. Klebs' Paper.

**Dr. N. S. Davis, Chicago:** I wish to say only a few words in regard to the chart showing the mortality, according to ages, from non-tubercular diseases. The ground line in this chart is almost precisely the same as that of pneumonia as platted from the census statistics. It represents in our line the two varieties of pneumonia, the croupous and the catarrhal. The largest number of cases of catarrhal pneumonia occur under ten years of age, and the greatest proportion of croupous pneumonia occurs after that age. If we eliminate the statistics during that first period, we have a line that is more nearly correct for croupous pneumonia. If we get the statistics of the two varieties separated, I am sure that we will find the line in the earlier years of childhood not so high as is shown on the chart.

A friend of mine recently sent me a copy of a paper which has not yet appeared in print, and which is very interesting to me. He corrected the curve of pneumonia by determining the ratio of deaths in each decade, to the number of individuals living in that decade. When corrected in this way death rate during the period of adult life is much more uniform and there is not such an abrupt rise during the earlier years of life.

**Dr. Klebs, closing the discussion:** That curve was calculated according to the population living at that time, that is, at those ages. The three curves are calculated on that basis, which is the only reliable calculation, one based on ten thousand population living at a given age.

#### REPORT OF COMMITTEE OF ARRANGEMENTS FOR NEXT ANNUAL MEETING.

Rock Island, Ill., Aug. 24, 1904.

The committee on arrangements for the meeting of the State Society which is to be held here next May, held their first meeting Aug. 23d. The committee was called to order by Chairman Dr. Bernhardt. Dr. Craig was elected vice-chairman and Dr. First, secretary and treasurer. All members of the committee being present except one; the chairman was authorized to organize the committee as he thought best.

The chairman then appointed; as chairman of the several sub-committees:

Halls and hotels, B. F. Hall.

Exhibits, E. M. Sala.

Transportation, S. B. Hall.

Finance, J. DeSilva.

Advertising, etc., W. H. Ludewig.

Lady Physicians, Emily Wright.

Entertainment, J. R. Hollowbush.

Reception, G. G. Craig.

Dr. Weis of Ottawa being present, outlined the work of each committee.

After the meeting Dr. Weis was taken out on a tour of inspection of the halls where the meeting will be held and pronounced everything firstclass, with all the room we could use.

When it comes to hotel accommodations we are unlimited and will expect every physician in Illinois to attend the meeting.

F. H. First, Secretary Committee.

# The Illinois Medical Journal.

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- (1) J. H. Stealy, Freeport.
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## PUBLIC SCHOOL TEACHERS AND TUBER- CULOSIS.

The state educates the child and affords the means for training the teacher for the benefit of the commonwealth; by so much as the teacher contributes to the advancement of the public is the state compensated; but the state makes no attempts to clothe, shelter or maintain these servants like it does the volunteer integers of its army and navy. No commissary provides them a carefully studied "balanced ration," by which their highest efficiency can be maintained, while shelter and raiment are obtained by most searching economy; no trained and commissioned surgeon-major directs and compels their hygiene, but they are left in the mental and physical battle for the "survival of the fittest,"

not only with their struggling fellows and peers, but with the invisible but ever present foe of infectious and communicable diseases with which the army of "infantry" in which their line of duty directs their services is always too well equipped.

It has always seemed an incomprehensible paradox in the human family and in the plans of the state that not as much attention is paid to the fundamental physiological principles of the origin and existence of the species *homo* or its preservation as there is to the cattle that roam its plains.

A counter-charge may be made that physicians have only recognized anthropology as the latest of sciences, while biology is only its brief antecedent; this remissness may be accounted for in the great concern for the re-

mote future, its rewards and punishments, which occupied the minds of the pulpit teachers and diffused itself throughout the populace until they learned to breathe a constant *TeDeum* and knew more of the dimensions and decorations of the heavenly chambers than they did of the "breath of life" or their "house not made with hands."

Thus a knowledge of anatomy or interest in the simple processes of physiology seem the *bete-noir* of the school teacher, while biology is also too often a strange, strange land.

Compulsory teaching of fanatical physiology is a bane that should be speedily eliminated for rational, pedagogic and *scientific* physiology. The constant primal phenomena of gestation, respiration, circulation and digestion of present existence should be the beginning of wisdom for the school teacher; without these fundamentals of knowledge no teacher can be a salvation unto herself or himself, neither can she impart the beautiful and necessary lessons of health and life to those entrusted to her care. Good physique as well as robust health should be both the heritage and possession of every teacher.

School boards may, by as much right, require a certificate of good health from an applicant for a teacher's place, made by a medical examiner other than the friend or family physician, as they have by custom and statute demanded intellectual requirements. Where such examinations have been called for sixty per centum have been declined or recommended for instruction or treatment; the deficiencies being mostly for respiratory incapacity or thoracic deformity, cerebrospinal anemias and irritation, and a few for ignorantly acquired pelvic diseases; such certificate is required in many other lines of public service, nurses, training schools, municipal fire and police, life saving, and military and naval service of the government.

The teacher with atrophic muscles of the neck and chest, drooping shoulders and arched neck is a moving witness of the absence of the laws of hygiene and an inviting and easy target for tuberculosis; if with this, as almost surely follows is an unstable nervous system, capricious or waning appetite, social and domestic environment must be indeed exalted and tranquil if the subject is not hurried into the ranks of the tuberculous or the neurasthenic. In such a subject daily tidal respiration of the shallowest kind goes on but little deeper than the involuntary and puerile breathing of sleep, with never a thought of a clean purge or a deep inspiration and exhalation to expand the distant alveoli and distend the leading bronchi and rid the distant area of the lungs of their residuary air and admit a fresh supply; a few deep inspirations and forced exhalations will clear the deep acini and dividing bronchi of much of the residuum and give triple the volume of new air again and as much more high vigor and potential resistance; respiratory exercises should be practiced by all teachers and taught all pupils with the same regularity and precision as meals and lessons.

That most female teachers are not such by choice and preference and natural and acquired equipment is an acknowledged infirmity of the corps. Teaching as a profession is rather the unstable bridge spanning the chasm between graduation and matrimony which they too timidly tread until the other eager shore is reached. To be or feel otherwise would be a futile denial of an organic law and sentiment of society and existence. This subtle factor of sentiment ever present, with the innumerable requirements and exactions of successful pedagogy, associated with the complex studies of psychology in self and pupil through all the grades, with



increasing complexions as grades advance, often compels the important material study of sanitation in the building to be regulated to the care of the untrained decrepit, politically appointed, and indifferent janitor with probably an occasional inspection by the hurried superintendent.

That teaching is an exalted enough occupation to gratify any ambition no one will have the temerity to deny. There are too many exalted attributes belonging to the teacher as individual and as community, and too many complex and arduous involvements in the teacher's occupation to ever lay successful or legitimate blame at their threshold.

Appropriations for grounds and buildings are necessarily limited; the selected or competitive architect, compelled to be over economic, seeks so-called beauty, and sacrifices sanitation for this, ignoring the old oriental saying that "where the sun and the air do not enter, the physician enters often." The present and most highly appreciated bacterial forces of *sunlight* and *fresh air* are unfortunately limited by the delusive parsimony of square feet in cities and square quarter acres in the country; neither of which economies is thoughtful, legitimate or economic in this imperial domain of Illinois, whose boundaries are a broad lake, the rushing waters of two grand trunk rivers, and innumerable serpentine tributaries draining by gravity and siphonage every foot of its terrestrial area, while winds from the Alleghanies and from the plains alternate to stir and sterilize its aerial strata; if rural and city board will furnish the landed space the Lord in His bounty will not fail to provide the bactericidal sunlight and fresh air. If municipalities cannot furnish this ground area, in suitable places, why not urge that some of the prodigal philanthropy that is lavished on

public libraries and universities be bestowed on the public school grounds that the predisposed scholar and the wearied teacher may have these preventative gifts presented them, instead of erecting costly sanatoria to cure them when once ill. Our alms-houses and jails have more attention given their location as regards air area than have our public schools, while cities have almost bankrupted themselves to furnish salubrious sites for the still doubtful utility of the free libraries that have been donated them. We rail at the villainy of the sweat-shops and the sunless and crowded tenement and offer our teachers and helpless children but a little better sanitary habitation; millions are expended for parks and the school house is located on a side street or alley corner.

No comparisons of moneys expended for the *prevention* of the spread of tuberculosis can stand against the maintenance of pauper or municipal tuberculosis cases, or the loss of production through its prevalence. Impress school authorities whose vigilance is so commendable and intent against diphtheria, scarlet fever, small pox and measles, that tuberculosis annually claims as many victims as all four of these combined, and that the faithful teacher is the most exposed of all.

School authorities will find helpful allies in every true physician; in suspected cases of contagious diseases an early conference should be sought with the family physician and his aid invoked to direct, eliminate or suppress tainted cases whether in teacher or pupil; where the relations between patient and physician are such that the interests of both conflict with personal or public policy a disinterested medical commission should be secured, sufficiently compensated, and their opinion taken as decisive and final for that case. The teacher who has engaged in his

or her vocation and is equipped by both education and experience is too valuable to be sacrificed, and should have both surveillance and protection as much as the immature scholar.

There are endless unnecessary exactions imposed on the teacher that plainly belong to the parent; those pertaining to personal cleanliness and hygiene, such simple acts as keeping the nose clean, brushing the teeth and laving or gargling the throat; especially should children in and out of school be forbidden the habit of insufflation, as this aspires the secretions of the anterior nostril that should be respired or blown out as the retention contains the bacteria that find in the posterior nares favorable lodgment for growth and development, and feeds the adenoids and keeps the turbinates congested; wholesome respiration is the function to which least attention is paid, and yet the breath of man is more than meat and drink; it is the first thing we gasp for and the last we sigh for when we go hence.

For the enlightening of parents the school house should be made a community center for instruction by imported or local lectures.

"That which cometh out of the mouth this defileth a man," might as easily be applied to the exhalations and expectorations of everybody, tobacco users, as well as the tuberculous infected subject working and wandering among his family and fellows in every vocation and community.

Attitude, posturing, sitting and standing should be enforced in the school room; respiration should be taught as a lost art is taught; the zone above the diaphragm should receive as much attention as the one below it, and better form and better health would result to all; with teachers teaching it by both precept and example, their own health would be conserved, the children's advanced,

less anemia with its attendant evils would exist, and the few hours spent in mural life to which so many ills are attributed and the many that are spent in the home and out of doors should accumulate only vigor, extend life and lessen the distance and diminish the target for the Great White Plague.

D. Lichty, Rockford,  
President Board of School Inspectors.

**THE DEMOCRATIC CANDIDATE FOR GOVERNOR CHARGES MISMANAGEMENT OF THE STATE INSTITUTIONS BY REPUBLICANS.**

The Hon. Lawrence Y. Stringer expressed his ideas on the subject of State Institutions at the Chautauqua at Old Salem near Petersburg, Thursday, August 18th. As the subject of his address is of especial interest to medical men, we give the following extensive quotation without comment. It is evident that this matter will play a large part in the coming campaign:

To build, equip and properly maintain the charitable institutions of the state has cost much in treasure. But whatever the cost, no tax is paid more willingly by the people of the state, and they are not so much concerned as to the amount appropriated as they are concerned as to whether the taxes raised for such purposes are properly and economically expended and are devoted, singly and solely to carry out the objects for which these institutions were built. And here let me say, with all the energy I can command, that whatever their objects may have been or are, they were never intended to be prostituted to political ends or made hatching grounds for political schemes or headquarters for political clubs.

The spoils system that has fastened itself of late years upon the body politic of the state is subversive of discipline and inimical to the interests of the wards of the state. However competent a superintendent may be, under this system he is powerless to bring about results, enforce obedience or manage his institution with success. Called to account for his misdeeds, the subordinate insolently replies that he gets his place from a power as high as the superintendent, that he regularly contributes to the common campaign fund and that his ability to perform the delicate work assigned him, not for his zeal, industry or caution, but as a reward for political services rendered and the political influence he still wields. The general service thereby suffers, discipline is destroyed, the wards of the state are neglected and abused,

the money of the taxpayers is frittered away and general demoralization ensues.

#### **Favors Merit Law.**

The remedy to my mind is the enactment and enforcement of an effective merit law, applicable not alone to the charitable and correctional institutions but to all departments of the public service of the state. The attendants in the asylums, the inspectors and helpers in the grain offices, the guards in the penitentiaries have nothing to do with the tariff, high or low, the coinage of silver or gold, the Panama canal or the far-off Philippines. Their work is a business proposition, appeals alone to the business sense and should be as devoid of politics as purely business propositions are.

In four sessions of the legislature, two in the senate and two in the house, I have advocated every measure looking toward state service reform. In the last session of the senate I supported the civil service bill with voice and vote, only to see it strangled in the house of its reputed friends. In the presence of this audience, and through it the entire electorate of the state, I solemnly promise and declare that if elected governor of this state I shall use every energy and power that I can command to secure the passage and enforcement of a state merit law. And if such a law cannot be and is not passed, I further pledge myself to administer the affairs of the several boards and institutions of the state in accordance with the well known principles of service reform.

#### **Heroic Remedy Necessary.**

The disease being spoils and the remedy state merit reform, it is evident that such can not be secured by the retention in power, in whole or in part, of the present political machine. It has naught to proffer but the infection to cure the disease. The grievances to be redressed are those alone which it has caused. Its promises are overworked and overworn by continual service in recurrent campaigns.

The remedy must be heroically applied and the change radical, complete and sweeping. No half-way policies will avail. The spoils system which has fastened itself upon the service of this state is not a mere infection or a ten days disease. It is a cancer, malignant and putrid, eating its way into the vitals of the body politic of the state. Salves and ointments and outward applications will not suffice. The surgeon's knife, a new surgeon and a new knife, is needed to cut down deep into the roots of the sore and extract every vestige of putrefaction.

#### **Obligations of the State.**

The great institutions of this state were not intended to be merely custodial. It is not enough that the reason-bereft or the child of feeble mind should be held in durance that society may be protected. The old-time "bedlams" did that. It is not enough that they be provided with food and clothes and shelter. They have a higher claim, the claim of humanity. They are entitled to the best scientific and expert skill that can be secured, that the fever of their brains may be assuaged, their rioting pulse calmed and their sufferings relieved. They

are entitled to gentleness of touch and the warm-hearted sympathy of broad minded attendants.

But such things can never be under a system where superintendents are appointed for political generalship, attendants for their work at primaries and polls, employes for the alacrity with which they contributed and advisory officers farm out the lives of dependent people as patronage to the faithful few and dictate appointments on the basis of political pull.

It is true we are in the midst of a presidential campaign and national issues are involved, but these issues sink into insignificance compared with the issues arising from the care, the recovery and the lives of twelve thousand unfortunates in our institutions of state, of whom you, the people of Illinois, are the God-appointed guardians. These issues appeal directly to the hopes and hearts and homes of common humanity.

#### **ILLINOIS POLITICS AS SEEN IN OHIO.**

The following editorial appeared in the *Cleveland Medical Journal* for August, 1904. The writer is evidently well acquainted with the state of affairs in Illinois and has written forcibly regarding them:

#### **THE CONSEQUENCES OF A GOVERNOR'S INTERFERENCE WITH STATE INSTITUTIONS.**

The lesson that our profession is striving to impress upon public officials as to political non-interference with public eleemosynary establishments seems not to have been learned by the present Governor of Illinois. Since this executive came into office he appears to have selected the State institutions, and especially the State hospitals, as the objects of his predaceous political ambitions. He invaded the State Board of Charities to place an obnoxious political secretary, thus mortally offending and forcing the resignation of two members who had for years adorned that board as prominent American charities workers. By the time his term—and we are thankful to record that it will be his last one—shall have expired, practically all the State hospitals in Illinois will have undergone reorganization according to the Yates political plan. As a result of this odious administration, honorable and competent trustees, superintendents, assistant physicians, executive officers, and employees have been compelled to relinquish their charges, and the State hospitals of Illinois have been plunged into a



state of retrogression not to be entirely remedied by ten years of careful after-treatment.

Be it said, however, to the credit of the physicians of Illinois that this sad spectacle did not pass them unnoticed. The early murmurs of disapproval became protests, and, as the abuses continued, these protests became more vigorous with the better organized condition of the Illinois profession. Finally the indignation reached the point at which the doctors determined to combine and campaign against the Governor of Illinois. To this end the Illinois State Medical Society and that powerful municipal organization, the Chicago Medical Society, entered the field. Throughout the struggle the Illinois Medical Journal, the official organ of the State Society, has performed estimable service, particularly by the series of valorous editorials concerning the Governor's degradation of the State institutions.

There is, therefore, abundant evidence that the medical profession of Illinois carried on a most active opposition to the Chief Executive. How effective this opposition was in securing the defeat of Governor Yates for renomination is difficult to determine at this distance, but we believe it must have been at least a factor. The active antagonism of two or three thousand well-organized and thoroughly indignant physicians in a given commonwealth is surely a force to be reckoned with, and it must have had its share in causing the Governor of Illinois to fall prey to his narrow and selfish political machinations. It is a force which will claim the respectful attention of far-seeing politicians, and one that will in time purge our charitable, benevolent, penal, and medical public institutions of the blight of partisan political interference and intrigue.

#### LEGISLATION AGAINST TUBERCULOSIS IN MARYLAND.

Through the efforts of the Tuberculosis Commission of Maryland, the legislature has passed an excellent law which has received the approval of the Governor. This provides for a compulsory notification of cases and deaths under penalty of a fine. Fumigation

of an infected house, on the part of the landlord, before it can be again let, is also made compulsory of \$25 if the law is not complied with. This legislation places Maryland in the front rank in the crusade against tuberculosis.

#### THE OTTAWA TENT COLONY.

The committee on tuberculosis have been busy since their appointment making plans for active campaign during the fall and winter. Inasmuch as no systematic attempt has thus far been made in this work to organize a state, we have no precedents to guide us.

We have decided to make the committee more representative and as we believe, effective by enlarging the membership. We are endeavoring to interest every important social factor including the press, clergy, women's clubs, business men, teachers, labor unions, politicians, etc., etc., by giving them representation on the committee. We will probably be ready to announce the names of this committee by September 1st.

The Ottawa Tent Colony was opened July 1st for the reception of patients. It is confidently expected that we will be able to make this self-sustaining. There are now 22 patients undergoing treatment. Those who have been under treatment for two weeks or more show improvement—some of them very decided. One patient gained 16 pounds in three weeks; another, 15 pounds in five weeks. The average gain last week for all the patients was 2 1-4 pounds. With the improvement in flesh there is a decided improvement in all other symptoms.

The patients are as a rule contented and no difficulty is experienced in securing their co-operation in carrying out the rules and regulations necessary to the success of the treatment.

Notwithstanding the expressed stipulation that advanced cases will not be admitted,

several such patients have been sent. No case is admitted except on the statement of a physician that the disease has not advanced beyond the second stage. We earnestly hope this very essential regulation will be more carefully observed in the future.

Physicians and others interested are cordially invited to visit the Tent Colony and see for themselves the work we are doing.

J. W. Pettit,

Chairman of Committee on Tuberculosis.

#### THIS SPECIAL TUBERCULOSIS NUMBER.

This issue of the Journal we believe will be found especially interesting to our readers because it contains the complete symposium on Tuberculosis read at the annual meeting now printed in its entirety for the first time. These papers were written by masters and two of them are illustrated by charts concerning the disease as it exists right here at home. In order to get all the plates on a better quality of paper it was necessary to separate them to a certain extent from the papers where they properly belong but the headings will designate them. There are two exceptions to this rule. The diagrams on pages 361 and 369 should be assigned to Dr. Klebs, by mistake they have been assigned to Dr. Webster. Besides the original articles there is a valuable signed editorial on Tuberculosis and school teachers, the rules promulgated by the Phipps institute for the study, treatment and prevention of Tuberculosis, also the rules promulgated by the German Imperial Board of Health. The Illinois State Board of Health has recently issued a valuable pamphlet which is only omitted because of its length and because it has been already placed in the hands of our readers. Associations for the prevention and cure of Tuberculosis are being formed over the State, (see report from Peoria) and Dr. Pettit reports favorably from his camp colony for the treatment

of the disease. On all sides we have evidences that the profession and public are waking up to the importance of this subject and wonders are sure to be performed in the near future.

### News Items.

**Dr. Geo. H. Rue**, of Lexington, has removed to Taylorville.

**Dr. H. T. Duffield** of Pittsfield and family are traveling in Europe.

**St. Francis' Hospital**, Evanston, netted \$1400 from the lawn fete recently given.

**Dr. M. D. Foster**, of Olney, has been nominated for Congress by the Democrats.

**Dr. E. J. Doering** is spending the summer with his family at Venice and the Italian lakes.

**Dr. Edward T. Alford**, 70 E. 36th st., Chicago, recently returned from a nine months visit in Europe.

**Dr. J. A. Wheeler**, of Auburn, has been elected secretary of the State Republican Central Committee.

**Dr. Jasper Tidball** of Grafton has been elected chairman of the Jersey County Republican Central Committee.

**Dr. Howard Metcalf** a recent graduate from Northwestern University has located at the corner of 5th and Monroe streets, Springfield.

**Cass County Medical Society** has adopted a uniform scale of prices in order to do away with the evil of over-charging for medical services.

**Dr. John Cole** of Williamsfield, Knox county, has been placed under arrest charged with performing a criminal operation and is held on a \$10,000 bond.

**Dr. J. A. Settles**, formerly of Kilbourne, recently wandered from his home at Yucon, Okla., and was found in Chicago, his mind is thought to be affected.

**Dr. S. L. Chapin**, of Saybrook, was fatally shot on the night of August 18th by a Mr. Wilkinson who lay in wait for him. His assailant is probably insane.

**Dr. J. W. Bowling** has been appointed local surgeon for the B. & O. and L. & N. railroads at Shawneetown, filling vacancy caused by the departure of Dr. Barton.

**Dr. Norman Dixon Curry** of Springfield, namesake and student of Dr. J. Norman Dixon, after a two years course in the hospitals of Europe, has located in Chicago.

**Dr. George W. McComas** of New Canton has filed in U. S. District court a petition in bankruptcy, his indebtedness is placed at \$1,902.57 and his assets at \$3,225.

The Illinois State Board of Health has secured a room in the Odd Fellows' Building, Springfield, where a laboratory will be estab-

lished for the investigation of diseases of the epidemic type.

**The Annual Meeting of the Mississippi Valley Medical Society** will be held in Cincinnati, Ohio, October 11, 12 and 13, 1904. Dr. H. T. Patrick of Chicago will preside and desires to see a large representation of Illinois doctors at the meeting.

**Dr. Maximilian Herzog**, formerly of Chicago, now a pathologist of the Biological Laboratory, Manila, Philippine Islands, has discovered a hitherto undescribed chromogenic bacterium which he has called *bacillus aureus foetidus*. This bacillus caused a fatal human infection in the body of a Filipino forty years of age. The interesting study by Dr. Herzog has been issued in pamphlet form by the Interior Department and contains sixteen pages of letter-press and nine handsomely illustrated cuts.

**Dr. Alice Hamilton and Miss Julia Lathrop** of Hull House, of Chicago, have been active in prosecuting druggists of that city for the illegal sale of cocaine. The state law provides that the State Board of Pharmacy may proceed civilly as in act of debt against any one charged with selling cocaine and collect a fine of \$50 to \$200 for the first offense and from \$200 to \$1000 for the second offense. On the second offense the license of the convicted person may be revoked. Geo. Allen of 438 Dearborn st. was fined \$50 and costs by Justice Doyle for selling poison in packages without labels.

**The third and final report** of the Sanitary Investigation of the Illinois, Mississippi and Missouri Rivers has recently been published by the State Journal for the State Board of Health. The most striking fact shown in this report is that the great flow of Lake Michigan water now passing through the canal into the Illinois river has so diluted the sewage that the water of the Illinois river is purer today than in 1899 prior to the opening of the drainage canal and it is believed that the water of the drainage canal itself is really purer than would be the water of the Illinois at low stage.

#### Deductions from Experiments.

In summing up the points deduced from the investigations recorded in the three reports of the board, Doctor Egan states:

1. That the water supply of the city of St. Louis is not injuriously affected by the Chicago Drainage canal and the flow of the Illinois river, the Illinois at its mouth being purer than the Missouri at its entrance to the Mississippi.
2. That the water of the Mississippi is not injured by the Illinois flow, as the water of the Illinois is practically as pure as the water of the Mississippi above the entrance of the Illinois.
3. The condition of the Des Plaines and Illinois river waters has been actually improved by the inflow of the drainage canal with its abundance of Lake Michigan water.

This would tend to show that neither the city of St. Louis nor other cities drawing water supplies from the Illinois river, or the Mississippi from Grafton down, are in any way menaced by the sanitary canal.

As to the effect of the sanitary canal upon the water supply of the city of Chicago, there can be no question, and when proper extensions of the canal are made, as already provided by law, so that the sewage of the Calumet and Evanston regions will be included in its flow, the city of Chicago will receive from Lake Michigan a water so pure as to meet every requirement for domestic use and as to practically exclude the possibility of water born diseases.

#### Peoria Begins a Crusade Against Tuberculosis.

A stiff fight is to be waged on tuberculosis in Peoria. The campaign is one of prevention and the exercise of radical measures as the cases demand.

The Associated Charities of Peoria has taken the initiative in the matter and Dr. Sumner M. Miller has been placed in charge of the work. Associated with him are Dr. Hayes health commissioner, Dr. Whitten and Miss Keyes the visiting nurse.

In line with the action of the state in organizing a tent colony at Ottawa, the Associated Charities will work. All of the methods in vogue elsewhere will be called into play and new plans for the prevention of the spread of malady and the complete stamping out of the disease will be used.

#### Action is Taken.

The executive committee of the Associated Charities met at 4 o'clock yesterday to consider the plans presented for waging a warfare against tuberculosis in Peoria and initial steps were taken to carry on the work outlined.

Consumption killed 7,000 people in Illinois during the year 1903. The death rate being five times as great as that of any of the other diseases whose spread is controlled so carefully. Dr. Miller in a comprehensive statement outlined the work to be done. He said that fully one-seventh of all persons die of tuberculosis, yet consumption is a preventable and a curable disease. It can be prevented in Peoria, he said, and the sick can be cured if taken in time before much lung tissue is destroyed.

#### The Plan.

The plan outlined is similar to that adopted by other municipalities, notably New York where since 1886 a gratifying reduction of forty per cent in mortality of tuberculosis has been effected.

On the average, each case of tuberculosis infects one other case. It is the prevention of this second case, and the cure of the first case that is attempted.

Before the disease can be adequately controlled, it must be accurately known where the hotbeds of disease lie.

The warfare must be waged in the individual case.

First, therefore, from the death records of the city for the last decade, each death from tuberculosis will be tabulated, and charted upon a map of the city, which when completed, will show graphically the location of every case which died of this disease and during the period. Any location shown by a grouping of the cases



to be badly infested with the disease will be vigorously attacked and the disease eradicated at these points.

#### Is on Increase.

Individual houses that have fostered more than one case will be subjected to rigid disinfection and espionage. From these records, too, the occurrence of many cases in a single family can be determined, and the annual mortality can be estimated. And we may know whether the disease is on the increase in the city.

Second, the co-operation of the medical profession will be urged, and, by the report of all cases observed it is hoped that a record and register of those suffering from the disease may be kept. Such information will be kept private. The object being to aid the physician in his work and to protect the friends and relatives of the patient from the disease, and to put the patient on the road to health. If it is so desired the patient will be visited in his home, and plain instruction as to the disposal of the sputum—the main avenue of the spread of the disease, will be given.

Printed placards and pamphlets stating the nature of the disease, the methods of cure, and of the protection of the friends, will be given to the patient. The cases will be then controlled and visited from time to time. At any change of residence of the tuberculosis patient, steps will be taken to properly disinfect the rooms before they are used by others, as it is a matter of common observance that a residence occupied by a consumptive, if not properly disinfected, will endanger the health and lives of those subsequently dwelling therein. The cause of the disease is lurking in the dust and dirt of corners and this spreads the disease in families occupying these dwellings afterwards.

This point cannot be sufficiently emphasized, as it is a very common means of spreading the disease.

#### Will Make It Obligatory.

It is the aim of the committee ultimately to take steps to make the report of cases of tuberculosis obligatory for the purpose of aiding in the work of disseminating knowledge of the methods of the spread and for the purpose of prevention of the spread of the disease and of protecting those associated, and the cure of those affected.

Further it is also intended to urge upon the city council the passage of an ordinance compelling landlords to properly disinfect premises that have been occupied by consumptives before they are again used. This is solely for the protection of those who may afterwards live in such houses.

By such simple means the spread of tuberculosis can be checked, and the disease greatly limited.

#### A Sanitarium.

The next step naturally is the establishment of the sanitarium where the sick consumptives

can be adequately cared for, where he will have the very best chance of fighting the disease and of regaining health by living a wholesome life.

The committee to whom this work is delegated consists of Dr. S. M. Miller, chairman, H. B. Hayes, health commissioner of Peoria, Miss Keyes and Dr. H. H. Whitten.—Peoria Herald-Transcript, July 27, 1904.

## Marriages and Deaths.

### MARRIAGES.

Dr. Clarence W. Hopkins and Miss Mary E. Kinsey of Chicago, July 27.

Dr. Wm. W. Quinlan and Mrs. Truman W. Miller, both of Chicago, at Haverhill, Mass., July 12.

Dr. John P. Benson and Miss Irene Devine, both of Joliet, July 14.

Dr. Chas. E. Slegel and Miss Myrtle Shoup, both of Abingdon, July 28.

Dr. Chas. E. Morgan of Humboldt and Miss Sarah Dole of Mattoon, July 7.

Dr. Arthur D. West and Miss Margaret Rosborough of Elgin, June 28.

Dr. Henry A. Davis of Cairo and Miss Bertie N. Moore of Converse, Missouri, July 6.

Dr. R. M. Little of E. St. Louis and Miss Mabel Allyn of Modesto, July 7.

Dr. Walter C. Bley of Beardstown and Miss Pearl Barkley of Virginia were married at Virginia, August 27.

### DEATHS.

Dr. Clinton D. Henton, of Danville, died June 25. Age 73.

Dr. Patrick G. Jennings, Melrose Park, died July 3. Age 47.

Dr. John B. Wilson, of Harrisburg, Ill., died recently at the age 72.

Dr. Stephen D. Pollock died at his home in Galesburg, Ill., July 20, at the age of 64.

Dr. J. T. Koen, of Walshville, Ill., died July 14, age 62.

Dr. Wm. H. Githens, Hamilton, died June 29, age 77.

Dr. Wm. B. Rehling, of Alhambra, Ill., died July 28, aged 26.

Dr. Henry Venne, of Mattoon, Ill., died July 14, aged 70.

Dr. David B. Taylor, Millburn, Ill., died Aug. 1, aged 78.

Dr. Thomas McGaughey, Pennington Point, Ill., died Feb. 28.

Dr. C. C. McKinley died recently at Champaign, Ill., aged 76.

Dr. W. F. Hall, McLeansboro, died June 18, aged 53.

Dr. Harry F. Rue, Bloomington, died August 2, aged 22.

## County and District Societies.

### MERCER COUNTY MEDICAL SOCIETY.

Regular meetings are held at Aledo, quarterly.

Membership 25.

#### Officers.

President ..... C. W. Carter, Aledo  
Vice President ..... H. L. Allen, New Boston  
Secretary and Treasurer ..... V. A. McClanahan, Viola  
Censors: H. H. Sherwood, New Windsor; E. J. Hay, Millersburg; P. T. Bohan, Seaton.

The Mercer County Medical Society held their regular quarterly meeting in Aledo, July 12, 1904.

The papers read were on **Pain** by Dr. J. W. Ramsey and one entitled **Some Obstetrical Observations**, by Dr. M. G. Reynolds.

The papers were well prepared and the meeting was a profitable one.

The next meeting will be held the second Tuesday in October in New Boston.

### CLINTON COUNTY MEDICAL SOCIETY.

#### Officers.

Regular meetings are held on the first Tuesday of February, May, August and November.

Membership 18.

President ..... Ph. H. Leibrock  
Vice President ..... B. J. Meirinke  
Secretary ..... C. H. McMahan  
Treasurer ..... T. E. Alsop

The Society held its regular quarterly meeting in Trenton, Tuesday, August 2, 1904, with the following members present: Drs. Alsop, Hill, Edwards, Gaffner, Carter and McMahan.

The meeting was held in the office of Dr. Carter, and as the president and vice president were both absent, Dr. Gaffner was elected to preside over the meeting.

Dr. J. G. Vogt, of Trenton, was elected a member of the society. An interesting case of **Valvular Heart Lesions** was presented by Dr. Carter which was quite instructive.

The question of contract practice, especially relating to miners and their families, was brought before the Society, and after a lengthy discussion it was decided to let the matter lay over until the next meeting.

Meeting adjourned at 4 p. m., to meet in Carlyle November 2, 1904.

### CHAMPAIGN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Champaign at the Hotel Beardsley the third Thursday of each month. Membership 60.

#### Officers.

President ..... S. S. Salisbury, Champaign  
Vice-President ..... W. L. Gray, Champaign  
Secretary and Treasurer ..... Jas. S. Mason, Rantoul  
Censors ..... C. H. Spears, H. E. Cushing, Champaign, and J. A. Hoffman, Pesotum.

The regular bi-monthly meeting of the Champaign County Medical Society was held in Champaign City, June 22, 1904. The session was called to order at 2 p. m., in the parlors of the Beardsley hotel, the President, Dr. S. S. Salisbury in the chair.

After the reading of the minutes and the

transaction of some miscellaneous business Dr. James M. Bartholow of Urbana read an interesting paper on **Scarlet Fever**. The essayist emphasized the misfortune of mistaking mild, atypical cases of this disease for a simple tonsillitis, and gave it as his opinion that it was in this way that scarlatina was frequently spread. The paper called out an interesting discussion and among others who participated in this were Drs. Dodds, Wall, Howard, Cushing, Burress and Collins.

Dr. W. F. Burress of Urbana next read a paper on **Skin Diseases** in which he gave a concise, practical classification of these troubles, and also some sensible suggestions relative to treatment. The paper was discussed by Dr. Wall and others.

The meeting was well attended and after a verbal report of cases and the transaction of some additional business the Society adjourned.

### ROCK ISLAND COUNTY MEDICAL SOCIETY

Regular meetings are held monthly at Rock Island on the second Tuesday. Membership 56.

#### Officers.

President ..... L. D. Dunn, Moline  
1st Vice-President ..... G. A. Wiggins, Milan  
2d Vice-President ..... W. L. Ludewig, Rock Island  
Secretary ..... T. J. Lamping, Moline  
Treasurer ..... L. Ostrum, Rock Island  
Official Reporter ..... F. H. First, Rock Island

Regular meeting held at the Harper House, Rock Island, August 9. There were thirty-three members present. There being no papers to be read Dr. Gardner of Moline gave a talk on his observations at some of the medical centers of Europe last summer.

After a general discussion concerning the best interests of the profession it was decided to appropriate twenty-five dollars to be used by the legislative committee in securing evidence against several quacks who recently located in the county.

A letter from the Secretary of the State Society was read, asking the county society to appoint a committee on arrangements for the State Society meeting which is to be held in Rock Island next May.

The following is the committee appointed by the county society: Drs. C. Bernhardt, chairman, G. G. Craig, Sr., J. DeSilva, W. H. Ludewig, S. B. Hall, J. R. Hollowbush, F. H. First, Emily Wright, B. F. Hall, E. M. Sala.

### WABASH COUNTY MEDICAL SOCIETY.

Regular meetings are held at Mt. Carmel, quarterly.

Membership 18.

#### Officers.

President ..... W. B. Moon, Bellmont  
Secretary ..... J. B. Maxell, Mt. Carmel

The Wabash County Medical Society met at Dr. Kingsbury's office, Tuesday, July 26, 1904. There were present thirteen members and visitors. Dr. J. T. McAnally, counselor for the Ninth District of Illinois, of Carbondale, was

present and discussed the subject of **Practice of Medicine**, in a very practical and satisfactory manner. A general discussion followed. Dr. G. C. Kingsbury opened a discussion upon **Summer Diarrhoeas of Children**. This was followed by a general discussion which was a timely subject because of the increased number of that kind of cases caused by the few days of high temperature.

The Society had arranged for a carriage ride in honor of Dr. McNally. After the meeting adjourned, the members entered carriages and they were shown about the city to the numerous factories and the splendid government lock and dam. The doctor's visit will be the means of strengthening the Society and arousing a renewed interest.

Every regular physician in the county in practice is now a member of the County Society.

#### DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month  
Membership 62.

##### Officers.

President ..... Lynn M. Barnes  
Vice President ..... Clara Garber  
Secretary-Treasurer ..... W. C. Bowers  
Board of Censors: E. A. Morgan, F. M. Anderson, J. Stebbins King.  
Program Committee: W. C. Bowers, Chairman; E. J. Brown, W. C. Wood, A. Wilhelmy, L. M. Barnes.  
Delegates to the State Society: Cass Chenoweth, W. C. Bowers, E. J. Brown.

The Decatur Medical Society held its regular monthly meeting in the Decatur club rooms, July 26, 1904, at 8 p. m., the Vice President, Dr. Clara Garber, presiding.

Dr. M. V. Lonergan read the paper of the evening on **The Treatment of Pneumonia**.

He dwelt especially on the use of quinine in the congestive stage of pneumonia to abort the disease. The paper was interesting and elicited much discussion, Dr. M. T. Heffernan leading.

Dr. W. J. Chenoweth's talk was full of reminiscences of the days when quinine was almost always given in pneumonia as it was usually associated with malaria, also at that time (fifty years ago) bloodletting was practiced by some members of the profession with some apparently remarkable cures in sthenic types.

The Decatur Medical Society held a called meeting in the Decatur club rooms, Monday evening, August 15, 1904, which took the place of the regular August meeting which would have been held Tuesday evening, August 23, 1904.

This special meeting was a smoker given in honor of Dr. E. E. Montgomery of Philadelphia, who was visiting relatives in Decatur.

Dr. Montgomery gave us a delightful and instructive talk on **Carcinoma of the Uterus**. The three cardinal symptoms of pain, hemorrhage and offensive discharge are not always positive signs of carcinoma, but should lead to investigation of the cause whether occurring collectively or singly and at any age. Any of these

symptoms occurring during the climacteric should be carefully considered and the woman not told that they are to be expected during the change of life and need occasion no alarm. All cancer affecting the portio vaginalis even if immense cauliflower excrecence demand hysterectomy.

Cancer affecting the cervix proper is peculiarly fatal.

Cancer of body of the uterus demands hysterectomy if the disease is probably limited to the uterus.

A case was related where a hysterectomy was performed by the abdominal route where the disease showed itself months afterwards at the site of the abdominal wound and did not recur in the pelvis, apparently proving the possibility of inoculating healthy tissues with cancer.

The speaker stated that there were no early positive symptoms of cancer of the uterus but anything arousing suspicion should be investigated and if in doubt a microscopical examination should be made of suspected tissue.

About thirty-five members were present as well as a few visitors.

Altogether this was one of the most delightful meetings of the year so far.

#### ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

##### Officers.

President ..... L. H. A. Nickerson, Quincy  
First Vice Pres ..... John A. Koch, Quincy  
Second Vice Pres ..... J. M. Grimes, Camp Point  
Secretary ..... Geo. E. Rosenthal, Quincy  
Treasurer ..... R. J. Christie, Jr., Quincy  
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.  
Delegate State Society..E. B. Montgomery, Quincy

The regular meeting was held August 8, at the Chamber of Commerce, President Nickerson, being in the chair.

In the August Journal Dr. Christie reported a case of pyo-pneumo thorax. By mistake it was made to appear as Pyo-haemo-thorax.

Drs. C. E. Ehle and A. W. Meyer of Quincy were elected to membership.

Dr. Rosenthal reported a case of **Actinomycosis of the Cervical Lymphatic Glands of the Right Side, Necessitating Ligatures of Right Common Carotid Artery: Aspiration Pneumonia: Death**.

Patient was a male, occupation farm laborer, age 66. One year previous had had epithelioma of lower lip removed, at that time there was no enlargement of the neighboring glands and there has been no recurrence.

Patient robust and well nourished, has not lost weight since beginning of present trouble six months previous.

The present growth consists of one large submental tumor equal to a hen's egg in size, and another just anterior to the angle of the jaw on the right side of equal proportions, connecting and surrounding these two was a mass of thickly matted glands. Venous channels stood out prominently over the affected area.



The tumor near mandibular angle was broken down and discharged a sulphur yellow material which gave negative results when examined for actinomyces.

At the second dressing an alarming hemorrhage occurred from this tumor mass. Haemostats refused to hold in the disintegrated tissue, the patient was carried to a table, where the hemorrhage was stopped by packing the cavity with gauze moistened with adrenalin solution.

The hemorrhage appeared to be both arterial and venous and it was thought that the facial artery wall had been invaded by the granuloma. Patient was almost unconscious when hemorrhage was checked so it was decided that it was necessary to ligate the facial or external carotid artery to prevent a more serious recurrence of hemorrhage.

On the following day patient was anaesthetized with chloroform, but breathing became so bad that ether had to be used. Chloroform was at length resumed and operation was begun. It was found that facial and external carotid arteries were so obscured and distorted by the mass of glandular tissue as to be difficult of recognition. It was then decided to ligate the common carotid since this was below the affected zone and would present a sounder wall for the ligature, accordingly the common carotid was raised and ligated.

Patient had both cardiac and respiratory failure four times during the anesthetic requiring artificial respiration and cardiac massage each time. Patient was given saline infusion and put to bed, when seen that afternoon his condition seemed good. On the following morning a double aspiration pneumonia had developed and patient died at 7:00 p. m., thirty-six hours after operation.

The operative field was much obscured by venous hemorrhage at all times.  
Adjournment.

#### JO DAVIESS COUNTY MEDICAL SOCIETY.

##### Officers.

President ..... T. J. Stafford, Stockton  
Vice President ..... A. F. Bucknam, Warren  
Secretary-Treasurer ..... D. G. Smith, Elizabeth  
Board of Censors: John C. Hancock; U. S. Lewis,  
East Dubuque; S. G. Kreider, Lena.

The society held its regular quarterly meeting in the Odd Fellows hall, Galena, July 28, 1904.

The officers were all present and upon roll call the following responded: Stafford, Blair, Nadig, Egan, Buckman, Grassau, Bench, Gunn, Weerich, Tyrrell, Smith, D. G., Godfrey, Bair, Hayden, Wright, Stealey, Lewis, U. S., Barber, Kreider, Keller, Gratiot, with the following visitors: Dr. Renwick of Warren, Dr. Delimore of Chicago, Dr. J. R. Guthrie and Dr. Mitchell of Dubuque, Dr. C. C. Gratiot of Shullsburg, Dr. Buck of Plattville and Dr. Cleary of Galena.

Dr. L. Jacobs of East Dubuque and Dr. H. B. Gratiot of Dubuque were elected to membership. The application of Dr. J. R. Guthrie of Dubuque was read and received.

Dr. E. M. Bench read a paper on *Infection*, which was fully discussed.

Dr. J. R. Guthrie of Dubuque read a paper on *Eclampsia*, discussion opened by Dr. Stealy who favored blood letting in plethoric cases. Dr. Guthrie closed by emphasizing the use of heroic doses of veratrum viride.

The Galena physicians had arranged for a dinner at the Gault Hotel and the physicians who were accompanied by their wives enjoyed the dinner to the utmost.

At four o'clock the Society again reconvened and Dr. Stealy presented a case of arteriosclerosis and read a paper on *Why so Many Errors in the Diagnosis of Grave's Disease*. He very clearly showed that many of these cases are not detected until late in the disease, and that they are far more numerous than supposed.

Next meeting will be held in East Dubuque in October.

#### WAYNE COUNTY MEDICAL SOCIETY.

Regular meetings held in Fairfield the second Wednesdays of January, April, July and October. Membership 14.

##### Officers.

President ..... W. M. Johnson, Johnsonville  
Vice President ..... J. D. Harlan, Fairfield  
Secretary ..... J. P. Walters, Fairfield  
Treasurer ..... F. Bean, Fairfield  
Censors: T. J. Hilliard, Jeffersonville; W. C. Sibley, Fairfield; B. E. Garrison, Wayne City.

The Society met at the court house in Fairfield in regular session Wednesday afternoon, July 13, with Dr. W. M. Johnson in the chair.

The following physicians of the county were present: W. M. Johnson, J. P. Walters, W. A. Hancock, C. O. Truscott, B. E. Garrison, T. J. Hilliard, F. Bean, W. C. Sibley, J. E. Dixon, Gregg Garrison, J. D. Harlan. Dr. J. T. McAnally, of Carbondale, District Councilor, was also present.

After the meeting was called to order, the program, as previously advertised, was carried out.

Dr. C. O. Truscott, of Cisne, read a paper entitled *Major Injuries of Minor Members*, which was followed by a discussion by Drs. Harlan, McAnally, Dixon, Johnson and Walters.

Dr. J. D. Harlan, of Fairfield, presented a paper on *Summer Diarrhoea in Children*, which was discussed by Drs. Johnson, Truscott, G. Garrison, McAnally, Walters and Dixon.

Dr. J. T. McAnally, of Carbondale, delivered an address on *The Practice of Medicine*. The address was a most excellent one and a vote of thanks was tendered Dr. McAnally.

Dr. B. E. Garrison, of Wayne City, read a paper on *Delayed Resolution in Pneumonia*, and the same was discussed by Drs. Truscott, G. Garrison, Dixon, Johnson and Sibley.

Dr. Gregg Garrison, of Wayne City, was proposed and accepted as a member of the Society.

Committees were appointed as follows:

To arrange uniform scale of fees—T. J. Hilliard, F. Bean, J. P. Walters.

To confer with Board of Supervisors Regarding Pauper Practice—W. C. Sibley, J. D. Harlan, B. E. Garrison.

At a night session, Dr. J. E. Dixon read an

interesting paper on **Tubercular Ostitis**. In connection with his paper Dr. Dixon presented two cases of diseased bone, commonly known as "white swelling," which were very interesting, and called forth a free discussion from all the members present.

Dr. W. C. Sibley read a paper on the subject **Auto-infection and Auto-intoxication** which also gave rise to spirited discussion on the part of the physicians present. As several of the members could not attend the evening session, a resolution prevailed asking Drs. Dixon and Sibley to repeat their papers at the next meeting of the Medical Society which will be held on the second Wednesday of October.

#### STEPHENSON COUNTY MEDICAL SOCIETY.

Regular meetings are held at Freeport monthly.  
Membership 30.

##### Officers.

President ..... Dr. W. J. Rideout, Freeport  
Vice President ..... Dr. J. N. Daly, Orangeville  
Secretary ..... Dr. K. F. Snyder, Freeport  
Treasurer ..... Dr. M. M. Baumgarten, Freeport  
Board of Censors: Dr. Hillebrand, Dr. B. Erp.  
Brockhausen, Dr. J. A. Poling.

A regular meeting was held on July 14, 1904, with Dr. J. H. Stealy in the chair.

Minutes of previous meeting were read and approved.

Application of S. S. Howe, M. D., of Dakota, Ill., graduate of Rush Medical College, 1904, was read and referred to board of censors according to rules. Secretary and Treasurer's report was read showing 30 members in good standing for 1903, and \$87.51 in treasury. Same was accepted in regular form.

The officers were elected for the coming year as above.

Regularly moved and carried that the committee appointed at last meeting to investigate complaint against persons violating Illinois Practice Act in Stephenson County be discharged and that a new committee of three be appointed who shall be empowered to act. Committee, Dr. B. A. Arnold, Dr. W. F. Bushnell, Dr. L. M. Currier.

The newly elected president, Dr. W. J. Rideout, was escorted to the chair when he briefly addressed the Society, thanking the members for the honor conferred on him, and soliciting their hearty cooperation for the coming year.

A vote of thanks was extended to the retiring officers for services rendered the Society during their term in office.

##### Program.

J. H. Firestone, **Two Factors in Pelvic Diseases of Women; Their Prevalence and Prevention.**

L. G. Voigt, **Fracture of Skull with Reference to Cases.**

K. F. Snyder, **Graves Disease.**

Papers were generally discussed by the members present.

Adjourned.

#### DOUGLAS COUNTY MEDICAL SOCIETY.

Regular meetings are held at Tuscola. Membership 24.

##### Officers.

President ..... W. A. Wiseman, Camargo  
Vice President ..... E. S. Allen, Arcola  
Secretary ..... W. C. Blaine, Tuscola  
Treasurer ..... W. E. Rice, Tuscola  
Board of Censors: J. L. Reat, Tuscola, C. Rutherford, Newman and Lockwood.

The Douglas County Medical Society met in regular session in the K. of P. hall, Tuscola, on August 4, 1904, at 2 p. m. Ten members were present. The President, Dr. Wiseman, being absent, Dr. Voyles occupied the chair. The minutes of the last regular meeting read and approved. Three excellent papers were read. One by Dr. Harper of Villa Grove. Subject **Appendicitis**, in which he discredited the use of opium in these cases and favored early operation in all favorable cases.

Paper by H. I. McNeill of Newman. Subject **Some Sanitary and Hygienic Problems.**

First. The author spoke of the matter of venereal sanitation and of physicians not fully and forcefully impressing their patients with the danger of infecting others.

First, he advocated that physicians thoroughly instruct the patient as to the nature of his affection.

Second, insist on patient disinfecting his or her soiled linen and the use of the individual drinking cups and table utensils, towels, etc.

Third, patients should occupy separate beds.

Second. Spoke of sanitation in all contagious diseases including certain forms of itch and various skin affections.

Third. The disposing of all typhoid excreta.

Fourth. The drainage in low lying and level districts.

Fifth. Spoke of the problem of hygienic ignorance, such as the confining of fever patients in ill ventilated and darkened rooms and of not bathing them. As well as the various other forms of ignorance and mystery surrounding sick patients.

The Society was next favored by a most excellent paper by A. E. Boyce, D. D. S., on **The Evil Results Following Extraction**. Illustrated with models from practice.

##### Abstract.

The author called attention to the great destruction and loss of children's teeth due to neglect and ignorance on the part of parents as to the proper time and means of caring for the teeth and that important function which the temporary teeth have to fulfill during childhood. And because it is only a baby tooth is no reason why it should not receive proper care and attention, not that temporary teeth should never be extracted, but that they should be extracted or allowed to decay away prematurely is the thing which we should strive to prevent. The impression which prevails among the laity that the temporary teeth have no root and should be extracted when they ache because a new one will come in after awhile any way is an error, which should be corrected and it is the duty of the physician and dentist to disseminate



this knowledge. A neglected first dentition often causes a great disfigurement of the permanent set, and a premature removal is much oftener the cause of irregularity than a tardy removal.

Because it is only a temporary tooth is no reason why it should receive no other consideration. Of course it is easier to extract than to take the time and patience to give it proper treatment for its preservation and parents usually think only of such measures as will at once and forever put an end to the trouble. The family physician is often called on at this time and often perhaps against his better judgment yields to the parents desire for extraction and thereby does an everlasting injury to his patient.

The conscientious physician and dentist will not only protest against premature extraction but after a kind and intelligent explanation of the proper treatment with good reason therefor, will absolutely refuse to become a party to the malpractice.

The preservation of the temporary teeth is important, because:

They are needed for the proper mastication of the food, without which there is not the proper assimilation and poor assimilation causes poor nutrition. When allowed to decay they contaminate the breath and the vitiated saliva mixed with the food passes into the stomach. Decay involves the pulp, causing pain and suffering with more or less nervous disturbance and final death of the pulp when the products of suppuration and other objectionable elements to the contents of the stomach. On the death of the pulp the physiological process of resorption of the root ceases and these roots from which the crowns have decayed sometimes remain for years deflecting the permanent teeth from their course or crowding them from their position in the arch. The temporary teeth are needed to retain the fullness of the alveolar process and maxillary development. They are needed as support to themselves and the teeth of replacement.

The evil results following premature extraction are:

Possible irregularity caused by absorption of the alveolar process and consequent arrest of development causing a contracted condition of the maxilla, permitting the remaining teeth to move toward one another closing the space, resulting in disalignment, impaction or prevention of the eruption of the permanent tooth.

Of especial importance are the second or posterior temporary molars and the temporary cuspids as the premature loss of these teeth and especially the temporary cuspids is the more frequent cause of irregularity, than any with which the dentist has to deal.

Also the premature extraction of the temporary molars may destroy the germs of the permanent bicuspid, the pulps of which are formed at about the fifth or sixth year.

Hygienic science is recognized as an essential factor in the care of the body and dental hygiene is just as essential in the care of the mouth and teeth as without it the battle is endless and the result doubtful.

Any diseased condition of the system which disturbs nutrition, affecting or preventing the assimilation and appropriation of the lime salts which go to build up the osseous system will produce manifest defects in the teeth and these conditions should be recognized and treated and physicians and dentists should take more interest in the subject and study for the preservation of the temporary teeth by a hygienic regime, which tends toward the prevention of a low grade of tooth structure. In this the physician's opportunity exceeds that of the dentist by reason of their earlier opportunity to make such examinations, than the family dentist and they should realize more fully the importance of examining the teeth of children and where they recognize the need for treatment insist upon the parents taking the child to the dentist.

No physician, who has the welfare of his patients at heart can afford to neglect a consideration of their teeth and the obligation upon his part for the conscientious supervisory care of the teeth is as great as that for the care of any of the other organs of the body which usually come under the care of the specialist. Passing from the consideration of the temporary teeth to the permanent teeth and especially to a consideration of the first or sixth year molar, have found very few in my experience who realize the importance of it, the common belief being that it is a deciduous tooth, mainly owing to the fact that it is erupted before any of the temporary teeth are lost. This ignorance is not confined to the poor and uneducated but extends to others who should know better and who have the time and means and would have it attended to but just never think of having their children's teeth looked after until the child is crying with the tooth ache. The sixth year molar is most frequently the first member of the permanent set to need attention on account of there being almost always more or less decay present in the mouth during the loss of the temporary teeth. The usual though by no means all of the evil results of extraction upon the permanent set are:

It diminishes the size of the dental arches. Except in rare cases there is a tipping forward of the next tooth back of the space caused by extraction. There is also invariably more or less rotation on its axis of this posterior tooth. By just so much as this tooth leans forward its triturating surface is separated from that of its opposite in the other jaw, thereby reducing its masticating surface for one-third to three-fourths, so that the extraction of the four first molars (which is often done) results in the loss not only of those four but of two-thirds of the triturating surface of the next teeth back of these. It shortens the bite. That is, it causes the nose and chin to approximate more than would be normal had there been no extraction. It often causes separation of the upper incisor and sometimes of the lower causing a very unsightly disfigurement.

It causes exposure of the gums wherever the occluding or cutting ends of the teeth are not in contact, thereby preventing thorough mastication.



First, because hard bits of food strike the gum where the space exists, giving pain and inconvenience.

Second because the occluding ends of the teeth do not mesh. It causes an undue wearing down of the cusps of the teeth tending later in life to fracture at the points of malocclusion. It gives greater liability to the deposit of tartar. It causes as surely undue crowding between the teeth that remain and touch at their grinding edges as it gives space in the spaces left by extraction and extracting to make room is a misnomer, because there is always less space after-

ward than there was before on account of the moving together of the remaining teeth to close the space there by diminishing the needed room for the tongue, so that speech frequently becomes less distinct than it otherwise would have been, and sometimes leaving so little room that the patient complains of being cramped in tongue movement.

And finally if the extraction has been early in life the development of the palatine arch is so much interfered with that it becomes impossible to develop first class vocalization.



BROKAW HOSPITAL—BLOOMINGTON—NORMAL, ILL.

Brokaw Hospital is situated on a rolling tract of eight acres of land midway between Bloomington and Normal.

It is an incorporated institution with its ownership and control vested in a board of trustees, appointed by the various protestant churches of McLean County.

The hospital is actively managed through a board of directors and various committees. The president of the board is Mr. Clinton P. Sopar and the superintendent is Miss Caroline S. Flatt.

The hospital was opened for patients in 1896. In 1902 a second and larger building was occupied, so that now accommodations are afforded for fifty patients, mostly in single rooms.

A training school is conducted in connection with the hospital. This school, incorporated under the title of the Brokaw Hospital School for Nurses, offers to women desirous of becoming professional nurses, a course of theoretical and practical instruction. The practical knowledge is gained by actual care of patients under the supervision of the Superintendent and her assistants. The theoretical course is of the best. The medical staff give weekly lectures and daily clinical instruction. A class of seven members was graduated in June of this year.

The hospital owes its financial prosperity, in great part, to the generosity of Mr. Abram Brokaw and, in honor of his wife and himself, bears their name.

# Memorandum on Tuberculosis as Outlined by the Imperial German Board of Health.

Compiled at "Kaiserlich Deutsches Gesundheitsamt" at Berlin.

## A. What is Tuberculosis.

Tuberculosis is the most destructive of all infectious diseases. It attacks various parts of the body, chiefly however the lungs; it spares no nation, no age, no vocation, no class of people. More than 100,000 persons die each year in Germany from the effects of it, the number of patients afflicted by it being estimated as ten times as numerous. Every third person, who dies between the ages of 15 and 60 years, succumbs to tuberculosis.

Tuberculosis is caused by the tubercle-bacillus discovered by Robert Koch. This is a minute creature of the lowest scale, visible only when very highly magnified. It thrives best at blood temperature (about 98 degrees Fahrenheit) and multiplies in the interior of the body. It reaches the outer world chiefly in the sputum of sick persons and in the milk of diseased animals.

Every person is exposed to the danger of taking up the germs of tuberculosis into his own system, and many harbor them a long time without knowing it.\* Every one must therefore be prepared for battle with this enemy.

The tubercle-bacillus is most efficiently destroyed by high temperature in the presence of moisture, as by boiling or steaming. It can not long resist the action of sunlight. Other means of disinfection, such as cresol water, a solution of carbolic acid, formaldehyd, require a special previous knowledge for safe and effective use.

## B. How Does the Infection Take Place?

Hereditary tuberculosis is rare.

Tubercle-bacilli are taken up:

1. By inhaling with the air: germs either from the dried sputum of tuberculous persons in the dust, or whirled by winds and draughts while sweeping out, or carried on clothing or shoe-soles; or from the minute moist drops which invalids by coughing or talking diffuse in their immediate vicinity;

2. With the food: first through unboiled milk, also, in case of unsatisfactory inspection of meat through the flesh of tuberculous animals, which, admitted in trade, was not afterwards thoroughly cooked before being eaten;

3. Through injured or diseased places in the mucous membrane or in the skin.

Especially by means of unclean hands: e. g. in the case of children crawling on the floor, seizing soiled objects (clothing, handkerchiefs,

and the like) and immediately afterwards putting the fingers into the mouth (sucking fingers, biting nails, licking fingers when turning over leaves, (picking the nose, and similar bad habits;

Again, by means of unclean utensils: e. g. putting into the mouth toys already used by others, drinking-glasses, eating-utensils, wind instruments;

Finally, by means of unnoticed small sores, scratches, eruptions (scabs).

The result of the absorption of tubercle-bacilli is usually in the case of children at first a disease of the glands (e. g. of the neck and abdomen) and, in connection therewith, of the lungs, the bones and joints (scrofula of the bones, tubercular excrescences, voluntary limping), the cerebral membrane, etc. In the case of adults infection by inhalation predominates and leads to tuberculosis of the lungs, more unfrequently of the larynx (consumption). Through absorption of the tubercle-bacilli into the skin arises tuberculosis of the skin (e. g. lupus, corrosive herpes).

Most usually tuberculosis progresses slowly (chronic); exception: galloping consumption.

## C. How Does One Protect Oneself Against

### Tuberculosis?

In the case of no common disease is it so much in the power of each person, of even the weakest and poorest, to help himself as in that of tuberculosis, if he only combines insight with self-control.

## I. Measures Against Contracting Tuberculosis.

1. Let every person, whether well or sick, provide for the safe removal of the sputum, since one cannot detect whether sputum is tuberculosis or not. Do not spit on the floor of closed rooms (including street-cars and railway-coaches) or on frequented thoroughfares. Place in convenient corners spittoons filled with water which, to ensure safety, should be cleansed at short intervals (best by boiling out). Hold your hand before your mouth when coughing. Turn away from a coughing neighbor. Articles of clothing should always be kept clean, the trailing of garments should not be tolerated. The clothes, beds, linen of tuberculous persons may be used by others only after thorough disinfection. Dry sweeping should give place to moist, if need be scour with hot soda or a hot solution of soft soap. The raising of dust in the home, the work-place, and on the street should be avoided whenever possible. Shun places of refreshment where spitting on the floor is allowed.

\*One-fourth of the corpses of persons who have died from other diseases show internal traces of tuberculosis that had been overcome.



2. Let the strictest cleanliness prevail in the preparation and preserving (guard against flies) as well as the eating of food, especially of that which is eaten raw. Milk should be boiled and meat cooked thoroughly before being eaten; the boiled milk should be covered and kept as cool as possible.

3. The hands including the nails, the teeth and mouth should be cleansed frequently and thoroughly. Putting the fingers into the mouth or nose, and also scratching the face should be discontinued. Every sore should be protected against impurities by suitable bandages.

4. With regard to the tuberculosis of animals it will suffice to say that in cattle it usually affects the lungs, in pigs usually the glands of the neck or the intestines; in the former, therefore, through inhalation, in the latter through the food, chiefly through the unboiled slops and refuse milk of dairies. Proper means of extirpation are: gradual sorting out of tuberculous cattle, chiefly those that betray visible signs of the disease (tubercular knots on the udder, coughing with emaciation and rough hair, and the like); removal of all animals feverish from the injection of tuberculin from special dairies for children's milk and establishments for breeding; separation of calves from tuberculous mothers; frequent exercise of the calves and young cattle, if possible of the older animals also, in the open air should be encouraged, the use of only boiled milk and dairy residua for the feeding of pigs\*; exclusion of tuberculous persons, particularly of those with sputum, from attending the cattle; keeping the stalls clean.

## II. Measures for Strengthening the Body.

It is impossible to extirpate all tubercle-bacilli, therefore it is indispensable so to strengthen and harden the body that the absorbed germs can not take hold upon it. The principal means\*\*\* are:

Plain and wholesome food, which by judicious selection need not be expensive. Dainties and intoxicating drinks should be avoided:

A dwelling accessible to the entrance of air and light; rather in the suburbs than in the heart of the city; the best room selected as a sleeping room.

Plain, durable clothing out of material not too thickly woven, neither too warm nor too cool; in the case of a person in repose or of a sedentary occupation warmer than in that of someone frequently in motion; discarding the follies of fashion that hamper the free movement of the body, e. g. the corset and belts.

Only after defraying the costs of these unavoidable necessities may other expenses be considered.

Let order and cleanliness have the first place in the whole conduct of life. Wash the whole body daily with moderately cold water or rub it vigorously with a rough, damp cloth,

\*Many large dairies now heat all the milk before manufacture so that all danger is removed.

\*\*\*Further particulars in the "Gesundheits-buchlein," compiled in the Kais. Gesundheitsamt. 8. Abdruck., Berlin, Jul. Springer 1899. Price 1 Mk.

bathe in pure river or sea water, or take a shower bath (sparing the head) keep hair and beard, teeth and mouth, also the nails clean. Breathe through the nose keeping the mouth shut; the former is the natural filter for impure and injurious substances. If breathing through the nose is difficult, be examined by a physician; the impediment is often easy to remove.

Devote your whole strength to your work; it gives strength in return; seek, however, to perform it in accordance with the rules of health so far as these can be reconciled to it. Take advantage of prescribed measures for protection. Avoid a bent position in intellectual work. If you are an employer, consider how you may remove noxious substances or prevent such from arising (dust, smoke, etc.) The time for work and rest should be in proper proportion.

Devote the hours free from work to the strengthening of those parts of the body that had little opportunity to be exercised during work. Take exercise outside of your dwelling. Draw in long, deep draughts of fresh air while holding the hands pressed tightly against the sides. Accustom yourself also to being in the open air in unfavorable weather. Change wet clothing and shoes. Gymnastic exercises—especially when out of doors—suited to the conditions of the body, together with tramps on foot, games, moderate cycling, rowing, swimming and the like are the best allies in the fight with tuberculosis.

Go to bed at a reasonable hour. Avoid excesses of every sort. They destroy in a few minutes what has been gained in years. As little as a glass of moderately cool beer, a cup of moderately strong coffee or tea, a cigar—enjoyed at the proper time—injure the normal adult body, so much every intemperance injures it.

Finally, shun intercourse with persons who are suffering from infectious diseases; if duty or vocation demands such intercourse, then bear constantly in mind the prescribed measures of precaution. Before you move into a house in which a tuberculous person has recently lived, have it disinfected.

## D. Advice to Persons in Great Danger.

Every one should study the foregoing rules of health, but especially all those persons who, from any reason whatever, have cause to fear tuberculosis more than others: weakly persons, such as have a long and slender figure with a flat chest, particularly if they be descended from tuberculous parents; again, such as have reason for the assumption that they have already taken up the germs of tuberculosis through intercourse with consumptive persons (relatives, guardians, fellow-workmen, or play-mates) or in consequence of their own sickness in childhood from scrofula and the like; also those whom their vocation endangers (who work in-doors or in the midst of dust, etc.); finally, those recovering from a severe sickness, and generally such as have suffered or are still suffering from disease of the lungs or chronic affection of the throat, whooping-cough, mea-



sles, influenza; diabetes, chlorosis, or are inclined to severe losses of blood (nose-bleeding and the like).

Let him, who possesses a body little capable of offering resistance, have regard to this fact when he chooses an occupation: an occupation that leads into fresh air and steels the body through exercise, is better than a business that confines within doors. Persons with sensitive respiratory organs have to avoid not only dust (and consequently dusty trades) but also smoke (tobacco smoke included) and cold, rough winds or else take corresponding measures of precaution; talking in the cold air or while walking should be discontinued and one should guard against catching cold and excessive bodily exertion.

Not less important is the sensible observance of general measures of precaution in every place where people assemble in large numbers through their occupation or from other causes (in schools, boarding schools—corresponding conduct of tuberculous teachers—factories, hôtels, poorhouses, orphanages). Neglect of tuberculosis by individuals endangers the general public.

#### E. Advice to Diseased Persons.

If symptoms appear that arouse the suspicion of a not merely transient disease of the respiratory passages: repeated coughing (dry or with sputum), frequent pains in the throat, breast, or back, lasting depression or tendency towards exhaustion, recurring fever, especially in the evening, with night sweats (though the covering be light), traces of blood in the sputum or even a discharge of blood from the throat, then a thorough examination by the physician (also of the sputum for tubercle-bacilli) should be made as soon as possible. If the suspicion is not confirmed, yet for all that the advice given under D. should be carefully followed. If the suspicion is confirmed, then the regulations prescribed by the physician are first of all to be observed. No cure is of avail if the patient does not himself contribute thereto by his general hygienic conduct and rigid observance of the prescribed measures of precaution. The patient should realize the double duty of taking thought for his own cure; in order to become

once more a useful, earning member of human society, and also of preserving his family, servants and neighbors from infection by heeding the precautionary regulations. Incipient tuberculosis is often curable; advanced, seldom. Success depends chiefly on timely anticipation.

Especial attention should be paid to the sputum; it should neither be cast upon the floor nor swallowed, but rather be vented into a separate, suitable vessel, which should be regularly disinfected; better still are the saliva bottles which the patient takes with him. Should it be necessary at times to vent the sputum into the handkerchief, the latter should be boiled before becoming dry.

The disease can also be communicated by kissing. An evidently consumptive person should be urgently dissuaded from marrying; let him wait until he is cured. Tuberculous women should not suckle or nurse children.

\* In case fever and tendency towards hemorrhage, rest and quiet are imperatively demanded; liberal enjoyment of quiet air, warmed by the sun, and free from vapor, dust, and smoke, is very beneficial, if the patient lies upon a sofa in a sheltered spot in the open air and has the lower part of the body sufficiently covered. The cure is most surely effected in a sanatorium devoted especially to the restoration of consumptives and directed by an experienced physician. After not too short a sojourn (not under three months), the obedient and attentive patient often regains not only his health, but appropriates to himself also the rules of living necessary to avoid relapses.

### New Incorporations.

The secretary of state at Springfield licensed the following corporations:

David Chemical company, Chicago; capital, \$10,000; manufacturing proprietary medicines; incorporators, Thomas McErnery, John F. Mahon and Michael Koch.

Lotio Rubra company, Chicago; capital, \$1,000; manufacturing drugs and medicines; incorporators, James A. Hall, Leo Michael and Charles L. Berndt.

# The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

## PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

### CHOREA AND ANEMIA.

By ROSHIER W. MILLER, M. D., Ph. G., Barton Heights, Va.

Lecturer on Nervous and Mental Diseases, and Professor of Theory and Practice of Pharmacy, University College of Medicine, Richmond, Va.

In the etiology of chorea, nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of several cases, I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreaic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment, and recovery seem to intimate at least a possible relation between anemia and chorea.

Case I. A female child of eight years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement, the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face. Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 red corpuscles per c.m.

This case was treated with two teaspoonfuls of pepto-mangan (Gude) and two drops of Fowler's solution, three times a day. After gastric symptoms had abated somewhat, two raw eggs per day were added to the diet. The patient was discharged in five weeks, completely recovered.

Case II. A female child ten years of age; gave history of malaria (a well-defined case of intermittent fever) one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination, I found

slight choreaic movements which had escaped the mother's eye, though she did admit that the child "could not sit still very long at a time," and "was constantly working her fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000 per c.m., with a proportionate decrease of hemoglobin.

Pepto-mangan (Gude) alone was employed in doses of two drams in a glass of milk three times a day. The blood examination four weeks later showed red cells present to the amount of 3,900,000 per c.m., at which time I dismissed the case completely recovered.

Case III. A female child of thirteen years. Two months before my visit, the mother informed me, the child became peevish and pale, and was reproved at school for her inability to write neatly. She was taken from school, but she grew rapidly worse. Morning nausea, vomiting, headache and anorexia were her daily companions. I found her with pronounced histrionic spasm with involvement of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red cells to 2,100,000 per c.m. The hemoglobin was reduced to a degree greater than the red cells. A curious feature of the case was the morning nausea. Immediately upon awakening, she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water, be placed over the nose and mouth before the preparation for breakfast began. The annoying symptom was promptly checked by this simple method. The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drams of pepto-mangan (Gude), was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days, the stomach was tested with small amounts of milk and pepto-mangan (Gude). Beginning with four ounces of milk and one dram of pepto-mangan (Gude) every four hours, the amounts of each were rapidly increased, until after three days the patient was taking eight ounces of milk

every two hours and four grams of pepto-mangan (Gude) three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red cells being present to the extent of 4,100,000 per c.m. The bloom of youth once more tinted the cheek, and the shrine of St. Vitas lost a visitor.

### NEUROTIC CONDITIONS IN WOMEN.

Prof. Chas. J. Vaughan, Chair of Gynaecology, Atlanta College of Physicians and Surgeons, writes: "Neuralgia constitutes the great cause of danger from the employment of hypnotics and narcotics, which only afford relief by numbing, but effect no cure. On the other hand, the formation of a drug habit rather aggravates the condition from which relief was originally sought. Neurasthenia, neuralgia and other manifestations, either of an active or passive character, are common and are always peculiarly rebellious to treatment. Cerebro-nervous affections peculiar to women associated with pathological disturbances of the reproductive organs are legion, and most trying to physician and patient. I have found nothing so well suited to these cases as Antikamnia Tablets, administered in doses of from one to three tablets and repeated every one, two or three hours according to the attendant's judgment. These tablets afford complete relief without fostering a drug habit and their exhibition is attended with no unpleasant after-effects. For the relief of painful menstruation there is no combination of remedies so generally successful as Antikamnia and Codeine Tablets. Their sedative, analgesic and anodyne properties especially commend them in the neuralgic and congestive forms of this distressing affection."

### A SCOTCH DOCTOR'S OPINION.

The Quarterly Journal of Inebriety, so well and favorably known through the instrumentality of its brilliant and philanthropic editor, T. D. Crothers, A. M., M. D., quotes the following statement in reference to pain relieving remedies, from one of Great Britain's noted medical men, Dr. John Stewart Norvell, Resident Surgeon, Royal Infirmary, Edinburgh: "Antikamnia Tablets are a remedy for almost every kind of pain, particularly for headaches, neuralgias and neuroses due to irregularities of menstruation. They act with wonderful promptness; the dosage is small, two tablets. The undesirable after-effects so commonly attending the use of other coal-tar analgesics are entirely absent and they can therefore be safely put into the hands of patients, for use without the personal supervision of the physician."

Are you always going to remain in "that rut," Doctor? If you are looking for light, don't fail to send at once for Abbott's Alkaloidal Digest, a brief but thorough introduction to the practice of Alkalometry. A complimentary copy will be sent you, if you mention this journal. See "ad" of The Abbott Alkaloidal Co., Ravenswood Station, Chicago, Ill.

**The Self Cure of Consumption Without Medicine With a Chapter on the Prevention of Consumption and Other Diseases,** by Chas. H. Stanley Davis, M. D., Ph. D., Meriden, Conn. E. B. Treat & Co., New York, 1904. 75 cents.

This work of 176 pages on a topic of great public interest is treated in a popular way by Dr. Davis and on the whole can be recommended to the laity without reservation as it contains matter of great interest to the consumptive himself, his relatives and friends. The chapters consider the subject under the following head:

Consumption and its Fatality; What Causes Consumption; Heredity; Symptoms and Diagnosis of Consumption; The Treatment of Consumption; How to Breathe Properly; The Proper Diet for Consumption; Exercise for Consumptives; Change of Climate for Consumptives; The Sanatorium Treatment of Consumptives; Hygienic and Prophylactic; The Cough of Consumptives; The Hemorrhage of Consumption; Appendix 1. The Prevention of Consumption and Other Diseases; Appendix 2. Nutritive Value of Animal and Vegetable Food.

Some of the Statements made by Dr. Davis seem to us uncalled for and tend to bring discredit on the profession by the laity. These are "There are doubtless many practitioners today who have less knowledge of Consumption than was taught by Hippocrates." "Not one practitioner in a thousand has a suitable microscope or understands the use of 'them.'"

With the exception of these few criticisms the work is very well adapted for the purpose for which it is intended.

### Exodin, a New Cathartic.

By Dr. Alfons Stauder, Specialist for Diseases of the Stomach and Intestines, Nuremberg, Germany. Read at the Nuremberg Medical Society, April 21, 1904; abstracted from the *Therapie der Gegenwart*, June, 1904.

The author desires to call attention to a cathartic which has very important advantages over the many old and new purgative remedies hitherto known. It is Exodin, diacetyl-rufigallic-acid-tetramethyl-ether, a greenish-yellow substance melting at 356 to 374° F. As is shown by Prof. Ebstein's report on this remedy, preliminary experimentation proved that rabbits bear 7½ grain doses very well and that this amount in human beings exerts a mild purgative action.

As suggested by Ebstein, Stauder gave to adults 2 or 3 tablets @ 7½ grains and to children 1 tablet. As it is tasteless and odorless, patients take the remedy without difficulty. The drug never causes any unpleasant symptoms whatever, no nausea, eructation or gastric oppression; even patients suffering from ulcer of the stomach can take it at all times without the least ill effect.

Its tastelessness gives Exodin an important advantage over castor oil and cascara sagrada. Its action is slow; and here his experience differs from that of Ebstein, for he found that it takes on an average 18 to 24 hours to manifest its effect. Action in 8 to 12 hours only



occurred in mild cases of chronic constipation or when repeated doses had been given. This slowness of action proves that the drug, in contradistinction to the rapidly-acting purgatives, has no injurious or irritant effect on the intestinal mucosa. Exodin does not occasion a sudden and temporary downward peristalsis of the intestinal coils; it has a slower and more protracted stimulant action. This explains the facts that gastric pains and colic are absent; that the evacuations with rare exceptions are soft and formed, and diarrhoea is hardly ever seen; and that its action, which lasts several days and only gradually subsides, is not followed by constipation.

The author here appends a number of illustrative cases, which clearly evidence the splendid action of the remedy.

The most suited cases for its exhibition are acute and chronic obstipation in otherwise healthy persons, the so-called atonic forms, and also the cases in which regular defecation must be stimulated in consequence of haemorrhoids, intestinal stenosis, twists in the colon, etc. Ebstein warmly recommends its use in pregnancy, even in the early months where all other purgatives may be useless. It does not lose its efficacy when used repeatedly at intervals. Spastic obstipation, intestinal paralysis and coprostasis with large fecal accumulations are of course little suited for the remedy. Here warm oil enemata are preferable; and after the scybalae are softened Exodin can be warmly recommended to facilitate their evacuation in the place of the customary castor oil or calomel.

By examining the faeces before and after employing Exodin, Stauder satisfied himself that increased production of mucus or other symptoms of irritation of the intestinal mucosa never occur.

For these reasons he agrees fully with Ebstein's conclusions as to the value and efficacy of Exodin. The certainty and constancy of its action and the entire absence of unpleasant by-effects assure for it a very prominent position among the purgatives. Of course it goes without saying that a careful physical examination of the abdomen to determine the nature and cause of the faecal retention is a necessary preliminary to the institution of treatment in every case.

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## SOME PRACTICAL POINTS IN THE DIAGNOSIS AND TREATMENT OF PLACENTA PREVIA.\*

BY HENRY F. LEWIS, M. D., CHICAGO.

1. Definition; marginal, partial and central. 2. Main diagnostic point; hemorrhage during pregnancy; a dangerous sign and must never be passed over lightly. 3. Signs by vaginal examination. 4. Tamponade; pro and con; dangers, useful to gain time. 5. In primipara nature may stop hemorrhage with head; less likely in multipara. 6. Dilatation of os by balloon passed into uterine cavity; opened vessels thus pressed upon as fast as placenta is separated. 7. Podalic version. 8. Braxton-Hicks version; latter not feasible in central placenta previa; too rapid extraction to be avoided after either. 9. Danger of deep tears and rupture. 10. Cesarean section; cases adapted for classical or vaginal operation. 11. After care; postpartum hemorrhage; sepsis.

The name placenta previa well defines the condition; the placenta lies before the presenting part of the fetus. Because it lies attached to the lower segment of the uterus and consequently to that zone which must dilate and be torn away from the placenta as labor progresses, the hemorrhage which usually accompanies the labor in this disorder is well called unavoidable. Rigby, over one hundred years ago expressed this thought in these words: "A previa is fixed to the part of the womb which always dilates during the labor. Authors usually divide placenta previa into three varieties, depending upon the extent to which it lies previous to the presenting part. *Central* placenta previa, sometime called complete, is that form in which the placenta lies so directly over the internal os that it still covers it even when completely dilated. Therefore even after complete dila-

tation of the os one cannot feel anything but placental tissue between the examining finger and the presenting part. Even in the central variety the major portion of the afterbirth is usually to the right. It is to that side that we also usually expect to find the main body in the other two varieties. It has never been proven that the exact center of the placenta lies over the internal os directly. Therefore the term complete is better than central. In classifying the incomplete varieties of placenta previa different authors use slightly different and somewhat confusing terms. The word *partial* is used by many to designate a placenta lying partly over the os so that, after complete dilatation, the margin is felt by the examining finger together with a segment of the membranes. Some apply the term lateral to this variety. Others reserve the latter word to designate what is known by many authors as *marginal* placenta previa. This third class is that one where the placental border reaches down to the margin of the internal os but not beyond it. I would consider the best classification to be as follows: First, placenta previa centralis; second, placenta previa partialis, and third, placenta previa marginalis.

The prognosis in the three forms decreases in gravity in the order named. In other words it is worse the more the placenta lies in front, that is the lower it lies. Higgins collects 75 cases from the house and dispensary services of the Boston Lying-In Hospital and reports that there were 8 deaths. Six of the fatal cases were of the central or complete kind. Most of the large statistics hitherto published are taken from the pre-aseptic era and therefore the mortality rate is much higher than is now observed in modern times with modern methods. The highest reliable table was that of Simpson, who made the mortality 29%. Tait, who wished to prove the advisability of performing Cesarean section for all cases of placenta

\*Read at the 54th Annual Meeting, May 17, 1904.

previa, stretched this rate of Simpson's to 40% and stated that he had no doubt that it was actually 50%. Higgins percentage of maternal deaths is probably about the average for maternity hospitals where many cases are received after being treated for a long time outside under unfavorable conditions, especially cases where excessive hemorrhage has already occurred. The mortality rate in the Boston Lying-In Hospital was practically the same for its out-patient and its in-door cases. The advantages of hospital care and paraphernalia in the latter is offset by the fact that the worst cases are apt to be sent in. The mortality in placenta previa at the Dublin Rotunda Hospital in the last ten years before 1902 was 4% in a series of 74 cases. Nine per cent is given by Klein as the maternal mortality at Chrobak's clinic in Vienna. Five women out of ninety-five whose cases were collected by Amadei and Ferri died.

The diagnosis of placenta previa is seldom made before the appearance of hemorrhage. Neither pain nor discomfort is occasioned by the condition and the attention of the patient is not called to it until flowing occurs during the pregnancy or until the attendant discovers the hemorrhage at the labor. Hemorrhage during pregnancy is the main point in the diagnosis. Even the slightest show of blood from the genitals of a pregnant woman should be considered as indicating placenta previa until it is proved to be due to some other cause. The hemorrhages occurring in the early months are frequently signs of threatened or impending abortion but may also be due to a low attachment of the afterbirth. It is rare for serious or fatal hemorrhage to occur in placenta previa during the first half of pregnancy. The proper treatment therefore for hemorrhage at that time is rest in bed and the same measures which would be instituted against threatened abortion. The hemorrhage of placenta previa is seldom accompanied by pain but that of beginning abortion often is. Doubtless indeed many abortions are caused by the early separation of a portion of a low lying placenta. If hemorrhage comes without dilata-

tion of the cervical canal at any time during the pregnancy, but especially during the first half, rest in bed will commonly suffice to suppress it. The escape of blood from the uterus must always be considered a serious matter and must never be passed over by the obstetrician without most careful observation and examination of the case. Carcinoma of the cervix, erosions or other pathological conditions may sometimes be the cause of bleeding but, in the pregnant woman, the most common causes of hemorrhage are two: accidental separation of the placenta and placenta previa. The former is the precursor of abortion and occurs most often during the first half. The latter usually does not result in hemorrhages until after the sixth or seventh month. Müller found that the first hemorrhage in cases of complete placenta previa occurred most frequently between the twenty-eighth and thirty-sixth weeks and in the incomplete forms usually after the thirty-second week. In the marginal forms there was very often no hemorrhage at all before labor.

Besides the hemorrhage, which usually first calls attention to the abnormal condition of the placenta, there are commonly no other signs or symptoms in the first five months of pregnancy. During the latter half it will often be possible to feel by digital examination the softness and boggy mass above the vaginal vault. If the placenta lies laterally or marginally the sensation of a soft mass below the presenting fetus will be more marked to one side, usually the right. Since abnormal presentations are more common with placenta previa than otherwise, the occurrence of such a presentation, as made out by external palpation, will sometimes direct one's mind to the abnormality of the placenta. In Müller's 1148 cases of placenta previa there were 272 cases of transverse and 107 cases of breech presentation. The frequency of such presentations may be due to the fact that the low lying placenta occupies the lowest portion of the lower segment of the uterus and therefore disposes the head, or to the softness of the lower segment preventing those regular contractions



of the muscle of the lower portion of the uterus which normally tend to maintain the usual vertex presentation. Then again prematurity is common in placenta previa and we know that breech presentations are common before the last two months of gestation. The cervix is long, wide and soft. Sometimes one feels transmitted to the examining finger the pulsation of abnormally dilated arteries in the cervix and lower segment.

Ballotement is usually absent. Absence of the morning sickness in a multipara who has been wont to suffer from that trouble in previous pregnancies is considered by a few authors as a diagnostic symptom of some value. The only positive sign is to feel the rough maternal surface of the presenting placenta by the finger passed into the cervical canal and through the internal os. Before the os is considerably dilated it is almost impossible to determine the variety of placenta previa with which one is dealing. The marginal form will soon be revealed as the os dilates because the finger will feel the edge of the afterbirth and the bag of membranes to one side of it.

If hemorrhage due to placenta previa takes place during pregnancy it is well to remember the words of Lusk, "There is no safety for the mother as long as the pregnancy continues." The first hemorrhage very exceptionally may be severe or fatal but is usually only slight. As the pregnancy goes on the successive hemorrhages become more and more severe. At any time and without warning by pains or otherwise may come a dangerous flooding. This may be at a time when no professional attendance can be speedily obtained and death or at least a dangerous degree of acute anemia may ensue before adequate measures are undertaken to prevent. Once the diagnosis is made it is surely a mistake to delay action on account of any scruples about the child. Only one-third of all cases of placenta previa reach full term. The mortality of premature infants is well known to be enormous even under good conditions. Even when the gestation progresses to full term the hazards of the labor are great for the child. Klein gives 69%

as the mortality for the children. This is probably not far from the average throughout the world. Hantel, in a series of 123 cases of placenta previa observed a fetal mortality of 74%. The danger to the child, aside from prematurity, is chiefly from asphyxiation on account of losing the aerating function of all that part of the placenta which must become detached before delivery can take place. Even when maternal hemorrhage is stopped by the pressure of the presenting part, the tampon or the half breech, still a considerable part of the placenta is compressed and physiologically removed from being of any use to the fetus. Since the chances of the child are so small it is indicated to induce labor as soon as the diagnosis of placenta previa is made. In rare instances, where one can have the patient constantly under the care of a competent medical man or in a well equipped hospital, it may be justifiable to wait in the hope that the labor will hold off long enough to enable as mature a child as possible to be born. Yet we must remember that, even under the most favorable surroundings, the woman may have a serious flooding before aid can reach her. Women have bled copiously in their sleep and wakened to find themselves lying in a sanguinary pool.

The induction of labor, in such cases, will be of itself a grave operation and one fraught with danger. The very acts of the labor which we are inducing aid in producing the unavoidable hemorrhage which is dreaded. Therefore it is best to induce labor in such cases by introducing an elastic bougie and tamponing the vagina and cervix with sterile gauze. This is best introduced in one strip so that it can be easily and quickly removed. If the os is already dilated or, as soon as the stimulus of the bougie and the tampon shall have dilated it enough to allow the introduction of a small Champetier de Ribes balloon, such an instrument should be introduced. This conical bag will prevent hemorrhage from the opened sinuses as the os dilates. When dilatation has progressed far enough to admit two fingers bipolar version may be employed or the large sized balloon may

be introduced into the uterine cavity and left until the os is fully dilated.

Shall we tampon in the presence of copious bleeding at the beginning of labor? Tamponade is convenient and, if carefully and thoroughly done, certainly stops or at least controls the severest of the hemorrhage for a time. The gauze must be packed in tightly around the cervix and firmly into the whole vaginal cavity. Then a vulvar pad must be bound to an abdominal binder to hold in the tampon. The vagina is a muscular and elastic canal and stretches before very long so that a tampon, which was at first a tight fit, in time becomes loosened. Thus considerable blood may collect above the tampon and much may soak into its meshes. A tampon tight enough to be effective in such a grave situation as is present in a case of placenta previa is a very painful thing. It has an advantage of stimulating labor pains very strongly. The chief objection to tamponade is fear of septic infection. The gauze may be absolutely sterile, the hands of the operator may be encased in sterile gloves, the woman's external parts may be cleansed as much as possible but there is sure to be more or less infective matter passed up into the upper vaginal canal with the tampon. This infective matter will come from the vulva, which is never aseptic, in spite of the most painstaking efforts. It is impossible to pack in a tampon so that it will be effective in the object for which it is employed without getting it more or less contaminated with microbes from the folds of the labia, the vestibule, the urethra or the clitoris. When one is confronted with severe bleeding in a case of placenta previa at the beginning of labor, when the os is too little dilated for the introduction of a balloon or the passage of two fingers so as to perform bipolar version, or when one must at any cost stop hemorrhage until he can send for assistance, get the patient to a hospital or get ready for operation, then the tampon will be a good make-shift. Its use is justifiable in order to gain time for more permanent and rational proceedings. In using tamponade an element of uncertainty always creeps in as

to the effectiveness of the hemostasis. Much bleeding may take place above a tampon not sufficiently tight and into the meshes of its texture before external signs of it appear at the vulva. In a woman who has already suffered loss of much blood this additional loss may be the last straw which will break the camel's back. Without anesthesia the struggles of the patient and the expulsive action of the voluntary muscles of the abdomen will interfere to a considerable degree with the proper tightness of the tamponade. Personally I am not a friend of tamponade in obstetrics. In placenta previa I would reserve it for those cases where the os is not yet dilated appreciably, especially in primiparae and where the initial hemorrhage is excessive. I should then consider it justifiable only long enough to enable the os to dilate enough to admit the two fingers necessary for the performance of bipolar version or for the introduction of the balloon. Where, in emergency cases, one is without competent assistance and is confronted with considerable hemorrhage, it would be indicated to tampon tightly in order to gain time to send for such assistance, to take the patient to a hospital or to prepare himself and his instruments for operation. Strassmann, in an exhaustive article based on the clinics of the Berlin Charité under Gusserow, advises strongly against the tampon, mainly on account of the dangers of infection. In the out-patient department, where tamponing was reduced to a minimum, the maternal mortality was 5%. Herz of Vienna also reserves the tampon for very exceptional instances and prefers, at the beginning of labor the colpeurynter instead of the gauze tampon.

In primiparae the head is usually engaged in the superior strait some time before the beginning of labor if that occurs at full term. If labor comes on a few weeks prematurely in a primipara the head, on account of the tenseness of the abdominal walls and the uterine musculature, is sooner forced down into the inlet than in multiparae. Therefore in the former patients we are less likely to require artificial measures to stop bleeding

after the os has dilated to the size of a quarter. The head will often come down far enough to plug the open vessels as the lower segment peels away from the placenta so that either the balloon or bipolar version will be unnecessary. The elasticity of the primipara's tissues causes enough pressure upon the lower segment, even during the intervals between uterine contractions, to prevent much loss of blood. The bleeding in placenta previa does not occur during the pains, that is during the contractions of the uterus, but during the intervals between the pains. During the contractions the open vessels of the placental site are closed by the action of the muscles and only bleed when that action ceases after the cessation of the pain. In a multipara the tissues, both abdominal and uterine, are more lax and there is little pressure by the presenting part upon the lower segment of the uterus during the intervals. The main danger in the case of the primipara is of a severe or fatal hemorrhage in a labor a few weeks premature while the os is still of small caliber and before the strong contractions of the uterine muscle with the corresponding retraction have pressed the presenting part down upon the dangerous area. This self-acting hemostasis in primiparae is practically only present when the vertex presents. The soft small breech does not make so good a tampon as does the head. In a primipara with a vertex presentation one can dismiss anxiety as to dangerous bleeding after the head has entered the superior strait in its largest presenting diameter.

In the time from the beginning of the dilatation until the head does so plug the lower segment of the uterus there is ample opportunity for fatal hemorrhage. Here is the place for tamponade or, better, the use of the vaginal colpeurynter. With the colpeurynter one can inject enough water to keep the vaginal canal well distended all the time and has quick information concerning the bleeding by noticing the escape of blood from the vulva around the bag. No blood of course is absorbed by the rubber bag as is by the tampon and the escape of a very little from

the uterus will be quickly evidenced by its escape from the vagina. One can loosen the bag from time to time to relieve the pain and can at once tighten it again at the appearance of hemorrhage. These ends are accomplished by opening the stop-cock and by injecting more fluid respectively. The colpeurynter is introduced by practically only one motion in a few seconds while the tampon must run constant risk of contamination from the vulva as it is gradually packed in. To the objection that the practitioner will be more likely to have materials for tamponade with him than to have a colpeurynter must be made the answer that every practitioner confronts the duty, when he undertakes to engage in the specialty of obstetrics, of possessing all the instrumental as well as mental accoutrements necessary to the undertaking of any case which he may meet. Although the colpeurynter and the Champetier balloon are made of rubber and are therefore not immortal, yet neither is expensive. It is to be doubted indeed whether every practitioner who takes obstetric cases carries in his satchel or can quickly obtain gauze of sufficiently reliable sterility for use as a tampon. The balloon and the colpeurynter are useful not only in the comparatively rare instances of placenta previa but also in very many other obstetric emergencies.

In the presence of hemorrhage with an undilated os it is manifestly imperatively indicated to stop the hemorrhage at once. Ergot and other styptics will not do it; the os is not enough dilated for the operator to perform version; nor is it dilated enough to admit the Barnes bag or the Champetier balloon. The bleeding must be stopped by pressure from below. As before mentioned I consider the colpeurynter a better means to that end than the tampon. One or the other must be employed. When the os has dilated enough to admit two fingers we have two measures open to us. Since Braxton-Hicks introduced the method of bipolar version which goes by his name in 1861 until the Champetier de Ribes balloon was brought to the notice of the profession about ten years ago the former was the preferred method



of treating placenta previa. It surely materially diminished the maternal mortality. In connection with aseptic technique it revolutionized the treatment of that condition.

As soon as the os will admit two fingers these are passed into the uterine cavity as far as possible while the hand occupies the vagina. It is essential to have the patient anesthetized. With the tips of the inserted fingers the head is pushed to that side towards which the occiput lies while at the same time the other hand outside pushes the breech to the opposite side. The head is gradually pushed away from the superior strait and the child is put into the transverse presentation. With the outer hand pushing down upon the breech and back, a foot is usually soon forced down into the reach of the inside fingers which grasp it and pull it down through the os into the vagina and even outside of the vulva. As the internal fingers pull down upon the foot the external hand pushes upwards on the head and the final result is the production of a half breech presentation. The conical shape of this thigh and half breech, especially if traction is exerted upon the foot, furnishes a plug which presses upon the wall of the lower uterine segment around the internal os and prevents bleeding as the os dilates. In most cases the case can be left to nature after the breech has been well drawn down but sometimes it will be necessary to exert a little traction to hold the presenting part in place. One has absolute control of the hemorrhage and none need be feared after the bipolar version has been accomplished. Drejer, reporting 49 cases which occurred in his private practice in Norway, states that he considers the Braxton-Hicks version the best method, although the mortality for the children was very great. Out of six cases which were febrile in the puerperium five had been tamponed before coming into his hands. Under the Braxton-Hicks method the mortality for the children is enormous. It probably averages over 75%. Among Strassmann's cases the fetal mortality was 81%. Version with immediate extraction

gave in his cases a mortality of children of 52% but the maternal mortality under the latter circumstances was 20% while, under the method of bipolar version and spontaneous completion of labor, it was 10%. The fetal mortality is bad for three reasons. First the child is subjected to the increased dangers always present in breech cases, where normally the fetal mortality is about 15%. Second comes in the factor of prematurity which is so common in cases of this affection. Third the presenting thigh and breech press upon a much larger area of the placenta than is being peeled off as the os dilates. The base of the cone whose apex is the foot is represented by the circumference around the child's ilium and abdomen just below the navel. All of the placenta in contact with the fetal body from where the os clasps the leg to this base of the cone is compressed by that portion of the body. This placental area will often be a large proportion of the whole. During the pains and, if traction is exerted on the foot, also during the intervals a large part of the placental circulation is prevented from being of any use to the fetus and the latter dies of asphyxia. The more previous the placenta is the more of its structure will be thus compressed by the presenting part and so the worse will be the prognosis to the child.

The Braxton-Hicks bipolar version is usually very difficult or even impossible where the placenta previa is central. In order to reach the head with the two fingers within the uterus one must have only the membranes between them and the head. In the partial and in the marginal forms the fingers are passed to one side (usually to the left) until they reach membrane free from placental tissue and then do their work through that. In central placenta previa it will be necessary to bore through the placenta in order to reach the head. The distance is thereby increased by the thickness of the placenta and the difficulty is enhanced by the embarrassing presence of the placenta all around the fingers. It is extremely difficult to perform the manipulations necessary through a placenta so situated. The danger

to the child is also increased by boring through the placenta by the bleeding which may occur from the lacerated vessels on the fetal side.

Podalic version involves the passage of the whole hand into the uterus in order to seize a foot. This requires a much more dilated os than is necessary in the bipolar method and that means that much more placenta has been peeled away from the uterine wall around the os. Pains enough and a labor which had progressed long enough to accomplish so much dilatation would usually have sufficed to have brought the head well down into engagement and therefore have stopped the hemorrhage in that way. The dangers of too early extraction of the fetus after version done either by the Braxton-Hicks method or the ordinary podalic version cannot be too strongly emphasized. Attempts to drag a fetus through a partly dilated os will tend to cause deep lacerations or even rupture of the uterus even in cases of normal implantation of the placenta. How much more is this likely when we deal with the softened and tender tissue of the cervix and lower segment which exists in cases of placenta previa? The temptation to terminate the labor immediately after the foot has been brought down in the interest of the child or in the fancied interest of the mother must be resisted. The child should not be extracted after any form of version until the os is nearly fully dilated, any more than forceps should be applied before full dilatation.

The colpeurynter is a rubber bag, shaped when dilated like a short fat Bologna sausage or a Scotch haggis, and will hold about a quart. It is elastic and will fill up all spaces in the cavity in which it is placed. It is well adapted for filling the vagina for hemostatic purposes as well as to stimulate contractions. It may be used for insertion into the lower segment of the uterus to aid in dilating the os or to stop hemorrhage in placenta previa but its very elasticity is a detriment for that purpose. The Champetier de Ribes balloon is made of stout silk or other unelastic fabric covered with rubber. Its shape is conical with the apex running off into the filling

tube. It only holds a definite amount of fluid (usually 500 c.c. for the large size) and cannot dilate to hold any more. It is well adapted for being placed in the lower uterine segment to aid in dilating the os or for stopping hemorrhage in cases of placenta previa. It does not press upon so much placental area as does the breech and body after Braxton-Hicks version and therefore the mortality rate for the children is better when it is used. It is sometimes called a hysteurynter. The method of introducing it is not difficult like bipolar version and is dangerous for neither mother nor child. It should be introduced upon a forceps guided by the index finger of the other hand during the interval between two pains. It is desirable to allow as little amniotic fluid as possible to escape.

In the Breslau obstetrical clinic the method of hysteurynter has been given a thorough trial and found to be an improvement on any former method. Kustner, from 1893 to 1897, in 22 cases treated by the balloon, had a fetal mortality of only 35%. Keilmann, in the same clinic, had 10 cases of placenta previa treated with the balloon and had seven living children while the other three were already dead before he began. Since then in the Breslau clinic, of 24 cases where the children were already living, 14 were born alive after the use of the hysteurynter: a mortality of 40%. Three mothers died in this last series: all hopeless when they entered the clinic. It appears that the use of the balloon is just as good for the mother as any other method and much better for the child.

The balloon may be introduced through the ruptured membranes in cases of marginal and partial placenta previa or may be placed in the cavity just inside the os below the placenta. In the latter case the placenta must first be separated from the uterine wall by the finger to make room for the balloon. Long ago Barnes recommended this stripping up of the placenta from the uterus in order to facilitate dilatation. The more or less adherent placenta must be a hindrance to the dilatation of the os which will be much soon-

er accomplished if the placenta has been separated by the fingers of the operator to the extent which would be effected naturally by full dilatation. The balloon is at once inserted and stops the hemorrhage. Many authorities advise boring through the placenta in cases of the complete type and putting the balloon into the amniotic cavity. Ponfiek does this and then hangs a pound weight to the rubber filling tube to ensure constant pressure on the os. DeLee varies this by using a spring balance to measure the weight. This traction by a weight or by the hand of the operator always starts up strong uterine contractions often too painful for the patient to endure. The amount of traction can be varied at will. The balloon is filled to its capacity with sterile water.

Of late considerable discussion has arisen among obstetricians as to the propriety of cesarian section for placenta previa. Since the passage per vias naturales requires the dilatation of the os and the unavoidable hemorrhage and since the methods of treatment along this line involve great danger to the child, some have thought to attack the problem at the other end and remove the child through the abdominal route, thus avoiding the hemorrhage and the dangers to the child. Prominent among them has been Reynolds of Boston. He holds that, inasmuch as the prognosis for the mother is at least as good in cesarian section in general as it is with the most approved methods now employed in the treatment of placenta previa, while the mortality for the child is now so bad by the usual methods, it is rational to perform cesarian section for placenta previa in the interest of the child. Zinke thinks cesarian section indicated in all cases of placenta previa centralis, especially in primiparae with a closed os and great hemorrhage which cannot be stopped by tamponade. I think few will disagree with him when he sticks to these limitations. That it is indicated in all cases of the central form without limitations is certainly open to discussion. Donoghue gives two indications for it: first, central placenta

previa; second, placenta previa in primiparae with much hemorrhage and a closed os.

We must admit that the prognosis in cesarian section in the hands of good operators under favorable conditions has become very good in recent years. That does not say, however, that it will be as favorable for placenta previa, which introduces a complication not present in the usual case of cesarian section. This complication is the existence of the placental site in the lower uterine segment where contraction and retraction are incomplete for a day or two after the end of the labor. Thus the tendency to hemorrhage is much greater. Then too placenta previa cases are seldom good subjects for such an operation as cesarian section, where so much depends upon perfect asepsis. The majority of cases are first seen under unfavorable surroundings and usually efforts have been made, often without aseptic precautions, to stop the bleeding or to deliver. Since labor comes on prematurely in such a large proportion of cases cesarian section could not hope to influence that large factor in the unfavorable prognosis for the child in such cases. As yet not enough cases of cesarian section for placenta previa have been reported for an impartial judgment. Until then I should reserve cesarian section for those cases of central placenta previa where there is marked hemorrhage with an undilated os, especially in primiparae. It must not be forgotten that the diagnosis of central placenta previa is not easy, indeed is often impossible before the os is somewhat dilated. As to the vaginal operation I cannot see any but the most exceptional cases where that form of cesarian section would be justifiable.

On account of the almost inevitable loss of considerable blood during or before the labor the patient is very likely to be anemic in the puerperium. For that reason she should be protected as far as possible from post partum hemorrhage to which there is a greater tendency on account of the faulty retraction of the lower uterine segment. Ergot, massage and similar methods will be employed. If hemorrhage ensues the hand



will be passed into the vagina to hold the os while the other hand firmly holds the uterus at the fundus. If this should not suffice tamponade of the empty uterus should be resorted to. It may be advisable to employ gauze soaked in a sterile solution of gelatine. Styptics, perchloride of iron and the like have gone out of vogue. After the bleeding has been controlled, subcutaneous injection of normal salt solution should not be neglected. A generous but easily digestible diet with frequent small meals should be prescribed. The woman should not be called upon to nurse her child. There will be greater danger than usual from sepsis because of the haste which must have been employed and the presence of the placental site so near the os.

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#### Discussion on the Paper of Dr. Lewis.

**Dr. Charles S. Bacon**, of Chicago: Mr. President, I cannot agree with the statement that the use of the metreurynter is easier than turning. If the bag is used, attention should be called to the bag of Vorhees, which is simpler and much cheaper than the original bag of Champetier de Ribes.

One important method of treatment was not mentioned, and that is the rupture of the membranes. When the head is presenting and has passed into the pelvis, then we have considerable hope that the presenting head will act as a tampon and we may in case of marginal implantation rely upon that. However, we can probably prevent considerable hemorrhage by the rupture of the membranes. By rupture of the membranes we prevent tearing away of the placenta, as the cervix dilates or retracts, and it is just in these cases that the old method of rupturing the membranes is of value.

[Note—The stenographer, at the request of the chairman, left the room to search for the men who were on the program to read papers at this time, consequently the first part of Dr. Bacon's remarks were not reported.]

**Dr. Joseph B. DeLee**, of Chicago: There are five points in the paper of Dr. Lewis of salient interest. The first point, as Dr. Bacon has pointed out, is the importance of recognizing the seriousness of placenta previa. The statistics given by Dr. Lewis should certainly warn everyone of the danger of hemorrhage in the last half of pregnancy.

Another point in the paper, but not one of the five, is the appellation "central." I think it would be wiser, from a clinical standpoint, to call all placenta previas central where at the time of examination nothing but placenta can be felt at the os. The only real central placenta previa that is recorded was one by Hunter, and it is pictured in his beautiful copper plates.

Another point in the paper to which I would take exception is the use of the bougie for the interruption of pregnancy in cases of placenta previa. The bougie is bound to separate the placenta; we cannot apply it on the front or back as we wish.

The tampon as opposed to the colpeurynter. To my mind it is of very little importance whether one uses the tampon or colpeurynter in the vagina to stop hemorrhage. I do not think we should use either. I do not think the tampon is of any service in a case of placenta previa. Of course, when applied by an expert, it might do some good, but even in the hands of an expert it does not, as a rule, stop hemorrhage. Dr. Lewis gave us the objections to the use of the tampon.

The use of the colpeurynter in the vagina is likewise, in my opinion, of very little application. In the first place, I have never seen a case of placenta previa in which it was impossible to insert the finger into the cervix in order to put in a bag. In forty cases of placenta previa up to now I have not found it impossible to insert the finger into the os suffi-

ciently far to apply a colpeurynter. Still, of course, a case may arise where the cervix is not sufficiently dilated to apply the colpeurynter, and in such a case I might be induced to apply a tampon, waiting for the cervix to dilate.

Another point in the paper was the application of the colpeurynter below the placenta—that is, in the uterus, but below the placenta. If one applied the colpeurynter in such a way, the colpeurynter is not responsible for bad effects, because it will push up the placenta and dislocate it, and hemorrhage may occur underneath. One of my first cases was attended by such a hemorrhage into the uterus, and accidentally discovered when I put my finger beside the colpeurynter, the blood running down, showing that it was coming out in the uterine cavity. The colpeurynter should be on top of the placenta, and simulate the fetal breech as much as possible. The colpeurynter, to my mind, is the greatest advance that we have had in the treatment of placenta previa since Braxton-Hicks' version. By putting in a colpeurynter you meet the immediate indication: You stop hemorrhage, and incidentally I will say that I do not use the Champetier de Ribes bag, but a Carl Braun rubber colpeurynter, with eminent success. It is safe and sufficient. As I have said, by putting in a colpeurynter you meet the first indication, which is to stop hemorrhage. You have time to think of and arrange for whatever operation is necessary.

**Dr. Roach, of———:** I have used adrenaline in two cases of placenta previa, and obtained good results. I would like to find out what the experience of the other members has been regarding its use.

**Dr. Rudolph W. Holmes, of Chicago:** I think it is a common belief that an obstetrical case is a medical one, with certain surgical aspects. It is entirely erroneous. An obstetrical case ought to be considered purely surgical, with certain obstetrical aspects.

As regards the surgical treatment of placenta previa, recently a paper came out in which there were reported 25 cases of Cesarean section for placenta previa. I have in preparation now a paper in reply to the above on that subject, taking the other side of the question, attempting to prove that it is an improper procedure. I have found that in these cases nine of the women were operated upon by seven obstetricians, and everyone of them had complications, as contracted pelvis of absolute or relative degree, or other extenuating circumstances. One of the women was operated upon because she had a contracted pelvis; the placenta was found deep down and approached the internal os at the time of an effective operation. The remaining sixteen cases were operated on by five surgeons, three gynecologists, and seven by general practitioners, not one of which had a complication warranting such a drastic measure as a Cesarean section.

I think it is wrong for a man who is not doing a particular line of work to lay down arbitrary rules of conduct in a branch of which he knows little or nothing. Tait in his original

paper recommending Cesarean section for placenta previa said that for thirty years he had done no obstetric practice; that his consultation work included but few cases of placenta previa, with fifty per cent mortality. More recently one of our most prominent surgeons performed a Cesarean operation for placenta previa, and in his report stated he pursued this course because he was versed in the technique of Cesarean section and did not know how to do version. I think that is a very wrong position to take. If he did not know the right treatment to carry out, he should have called an obstetrician to help him or better to assume charge of the case.

**Dr. Lewis (closing the discussion):** I wish to thank the members for their kind and free discussion of my paper.

Dr. Bacon spoke of the cotton tampon being better than gauze. I think, in the use of tampons, it is largely a question of personal opinion. The difficulty about cotton is difficulty of asepsis and of having good sterile material, as well as great difficulty in getting a cotton tampon out quickly. As Dr. DeLee has told us, when the os is fully dilated, it is essential that we go to work at once, do version, put on forceps, or otherwise terminate labor as soon as we can. I do not use cotton tampons, but it strikes me that it would be harder to remove pledgets of cotton as a tampon than it would be to remove gauze in one strip, and both methods take much longer time than to let the water out of a colpeurynter. Why the doctor should use a weak antiseptic, I do not quite see. Unless it is strong enough to kill microbes it is useless and if it is strong enough to do that, it is too strong an antiseptic to be used in such a place. If it is only a weak antiseptic, by the time it acts to kill microbes, the placenta previa case ought to have been completed before the antiseptic action gets in its work.

Dr. De Lee's criticism of the nomenclature is well taken. If I understood him correctly, he would leave out marginal and lateral. Almost all lateral cases would be to him central. There are really no cases of true central placenta previa, except those rare instances in which the exact center of the placenta is over the os.

Dr. DeLee also criticized the use of the bougie in inducing or interrupting labor. The bougie, as a means of producing separation, cannot do much harm as regards increasing hemorrhage. It is perfectly aseptic, and if introduced properly, I do not see how it can be attended with any particular danger in causing sepsis. I think he is right that in most cases we can introduce a small sized bag, or a Champetier de Ribes bag, but there will be cases—and I think I have seen one or two—where one could not with any degree of ease introduce the bag but where the bougie would be useful. I think Dr. Bacon said that the bag should never be put under the placenta, and in that connection he took exception to what I stated. If the placenta is entirely stripped up to the extent it would be with full dilatation of the os, before you put the bag in, the parts cannot be

separated any more. Separation takes place: the lower uterine segment being pulled away, you have already done the separating; you simply have dilatation. Barnes, I believe, is one of the prominent authorities who recommends that digital separation always be done in the treatment of placenta previa. Otherwise you have to go through the placenta if it is centrally located. In lateral placenta it is easy to go through the membranes. In placenta previa, where the placenta is over the os, you may bore through a mass an inch thick; then the colpeurynter presses down upon a large amount of material, and there is some danger of tearing vessels. I think it is well for us to emphasize what Dr. DeLee stated about terminating labor as soon as the os is dilated by version or, if the head has come down nicely into the pelvis, by the application of forceps at once.

One of the gentlemen spoke of the use of adrenalin. This is an agent to which I have not given any thought, so that I am not prepared to speak of its merits or demerits in cases of placenta previa.\*

## INDICATIONS FOR INTERVENTION OF GASTRIC ULCER.\*

BY A. T. STEWART, M. D., ONEIDA.

In surgery of the stomach we are interested for the most part in that which relates to gastric ulcer and its sequelae.

If we exclude measures instituted for the relief of conditions due to traumatism congenital malformations or benign stricture, practically all other interests are involved in the relief of the immediate or remote results of ulcer.

The prevalence of gastric ulcer has until a comparatively late date been much underestimated. Mayo Robson of England estimates it at from five to ten per cent of every community. As to the direct cause of ulcer many theories have been advanced. Anaemia and angioneurotic conditions incident to the adolescent age are most important factors. Associated with these chronic nephritis, hepatic cirrhosis, cholecystitis, pancreatitis, chronic appendicitis and bacillary invasion of the lymphoid follicles of the gastric mucosa must be considered.

Ewald on lectures on digestion says "whenever living blood circulates in the mucous membrane under normal pressure, the gas-

tric juice has no point of attack, but when the normal blood nutrition ceases, either in consequence of emboli (Virchow) or of ligation of vessels (Pavy), and necrosis of tissue occurs, then, as elsewhere, the gastric juice digests the dead tissue."

It would appear in the light of later surgical experience that our text books, particularly those on Practice, are in need of revision and our basis of diagnosis changed in relation to gastric ulcer. The usual conception of this condition has been limited to the three classical symptoms of pain, vomiting and hematemesis. As a matter of fact it is astonishing how seldom a gastric ulcer is suspected until a copious hemorrhage supervenes. The consensus of opinion among our most experienced surgeons indicates that in probably 60% of cases this symptom is absent, consequently if we were to rely on this classical symptom, it is obvious that not more than half of these cases would be recognized.

Pain following from a few minutes to several hours after eating is a very constant symptom of gastric ulcer. It is variously described as gnawing, boring or stinging, and corresponds to a point of tenderness about two inches below and a little to the left of the ensiform appendix, the so-called Brinton's point. If the ulcer is on the posterior wall of the stomach a point of tenderness is found a little to the left of the last two dorsal vertebrae.

The tenderness in the epigastrium due to gastric ulcer differs from that of cholecystitis in that in the latter the pain radiates along the level of the tenth rib to a point at the angle of the right scapula. In ulcer the pain is usually felt at the angle of the left scapula. The pain of gastric ulcer has a further significance in that it marks a relatively advanced progress of the disease.

Contrary to the general impression the greater part of the stomach wall is relatively devoid of sensibility. It is only the parietal peritoneum that has sensory nerves and the ulcerations of the gastric mucosa do not cause pain until the irritation incident to it affects the parietal peritoneum, or that which lines the under surface of the diaphragm. Extreme epigastric tenderness is not so much

\*Read at the 54th Annual Meeting, May 17, 1904.



pathognomonic of ulcer as that the ulceration is extending and perforation imminent.

Vomiting and nausea are frequently associated with ulcer, but as these conditions are common to functional gastric affections they are in no sense pathognomonic, but of considerable corroboratory value. The same may be said of hyperacidity, which condition is, however, said to occur in ninety per cent of gastric ulcers.

There is one symptom which has been especially emphasized by Futterer of Chicago, which I think marks a most important advance in the diagnosis of gastric ulcer. This is a persistent haemoglobinaemia and upon it largely, depends the ultimate prognosis of ulcer either from a medical or surgical standpoint. Moreover, the failure to recognize this condition is largely responsible for the subsequent non-healing of gastric ulcer treated by the various methods of rest cure and rectal feeding.

These patients constantly show a haemoglobin percentage of from sixty-five to forty per cent, and the ultimate prognosis is obvious unless we appreciate the necessity of overcoming this deficiency.

At the present I wish to outline Futterer's mode of treatment, the success or failure of which determines the necessity of surgical intervention.

(1) If we diagnose an ulcer of the stomach, or if in the absence of convincing symptoms, which are so often lacking, we have cause to suspect an ulcer, we must at once ascertain the percentage of haemoglobin.

(2) We advise the patient to go to bed, either in a hospital or at home, employing the services of a trained nurse.

(3) We give the juice of five pounds of fresh beef daily, as the case may require, to bring the percentage of haemoglobin up to normal as soon as possible (prepared beef extract does not give the desired result).

DIRECTIONS FOR PREPARING THE BEEF JUICE.

(a) Order five pounds of finely chopped round steak to be brought in at eight o'clock every morning. The fat should be removed before the beef is chopped.

(b) Mix with the meat a teaspoonful of salt and put in the upper part of a double

boiler; cover without adding water.

(c) Fill the lower part of the boiler with warm (not hot) water.

(d) Keep the boiler on the kitchen stove for four hours, keeping the water in the lower part just warm.

(e) Turn the beef every hour.

(f) After four hours press the juice out with a potato masher, season, and let the patient drink in two portions, one-half at dinner and the other half at supper time.

Five pounds of beef will yield about a pint of juice.

This treatment may be supplemented by rectal feeding.

In every case of gastric ulcer there are two prognoses to be given. (1) that which relates to immediate repair of the ulcer and disappearance of symptoms; (2) the ultimate prognosis which relates to the amount of pyloric stenosis and consequent dilatation, and more especially the probability of remote carcinoma.

Competent observers claim that ninety per cent of gastric carcinoma develop from pre-existing ulcers.

Futterer, in recent autopsy, found an ulcer in the lower pyloric region the lower border of which had undergone distinct malignant degeneration, while the upper border was still benign, indicating the mechanical effect of food irritation, a factor, the significance of which cannot be over-estimated.

When we consider some of the complications of gastric ulcer the indications for surgical intervention become apparent.

Among these are (1) perigastritis with adhesions; (2) local peritonitis ending with localized abscess; (3) subphrenic abscess; (4) abscess in neighboring viscera, as the liver, pancreas and spleen; (5) acute perforations of the stomach wall; (6) haematemesis and melena; (7) tumor of the pylorus; (8) cicatricial stenosis of the pylorus, with spasm; (9) atonic motor deficiency; (10) tetany; (11) adhesions around the bile ducts producing cholecystitis, pancreatitis, with attacks simulating gall-stone colic; (12) carcinoma.

In intractable and recurrent cases, operation should be resorted to much earlier than

has heretofore been the custom, in view of the fact that the latest statistics indicate a striking contrast of twenty-five per cent mortality in cases treated medically as against five per cent treated surgically. Out of 177 operations as reported by Mayo Robson for simple diseases of the stomach, 165 patients recovered, or about 93%. Again we must consider that only in the past decade has the surgery of gastric ulcer been worked out and the cases reported are largely made up of those referred to the surgeon as a court of last resort.

In the operation of gastroenterostomy much controversy has taken place as to the relative merits of an anterior and posterior union. Latterly however, surgeons are coming to appreciate the real indication of the operation, that is, to secure perfect and adequate drainage to a dilated stomach, and to secure this condition the union should be made at the most dependent portion of the organ. Having this in mind we hear less of the so called vicious circle.

#### HISTORY OF A CASE.

Mrs. C. G. R. age 29, married two years, family history good. Menstruation commencing at the age of 12, regular but at times painful and scant. Since age of 14 remembers suffering from a dull pain in epigastrium with attacks lasting from several hours to a week, attended with vomiting and eructation and gas. The trouble was such as required the services of different physicians and was variously diagnosed as biliousness, dyspepsia, catarrh of the stomach, etc.

Latterly these attacks were increased in severity with pain radiating to the back and up under the left shoulder blade. No special note had ever been made of the appearance of the feces.

Patient came under my care in Feb. 1902.

Condition: anaemic, hemoglobin 50, appetite variable, tongue coated. Temp. normal, pulse 82, heart and lungs normal, urine normal. Pain constantly in epigastrium with no special reference to eating, vomited occasionally. Tenderness in epigastrium with very painful point two inches below and a little to the left of ensiform appendix, with a corresponding point of tenderness as al-

ready indicated posteriorly. Diagnosis of gastric ulcer made and patient placed on a milk diet with large doses of bismuth subnitrate.

About ten days later the patient had a severe hemorrhage during the night, vomiting about a pint of blood and in the next few hours had twenty bowel movements of clotted blood. Treatment consisted of adrenalin by mouth, morp. Sulph. subcutaneously together with an enema of calcium chloride, two drams to a pint of water.

Patient was at once taken to Augustana Hospital, Chicago, where for two weeks she was kept exclusively on rectal feeding, under which treatment acute symptoms subsided and on March 10th a gastroenterostomy was done by means of Murphy button. Patient improved rapidly, gaining about 35 pounds in two months, and eating common food without any special discomfort.

In September, four months later, secondary symptoms of pyloric obstruction began to appear. Appetite was failing, weight diminished and vomited shortly after eating. She again returned to the hospital and a pylorotomy was performed and at the same time the gastroenterostomy opening enlarged. The pylorus was found to be almost closed due to the healing of the previous ulcer. The gastroenterostomy opening was also almost closed, due to the fact that the nutritional changes following the first operation had enabled a stomach previously myasthenic and dilated to contract to its normal proportions, thus narrowing the new opening. Following this, patient again made a rapid recovery, and in a short time was able to eat without discomfort, regained strength and did her own housework.

An unusual sequel to her previous experiences was the fact that one year later patient underwent an operation for ectopic pregnancy complicated with a perforated appendicitis with complete recovery.

#### CONCLUSIONS.

1. Gastric ulcer is an affection more common than has generally been supposed, and if we rely on the so-called classical symptoms we will fail to render an early diagnosis of about 50% of cases.

2. All cases of suspected gastric ulcer should first be submitted to thorough medical treatment along the lines of rest and suitable diet with the object of having the hemoglobin approximate the normal.

3. Should the ulceration prove intractable, or relapses occur, gastroenterostomy should be performed to secure the physiological rest necessary to the repair of the ulcer.

4. Perforation demands immediate operation.

5. Remote complications such as disabling adhesions around the pylorus.

Pyloric contraction, kinking of the bile ducts, great dilatation serious impairment of health with loss of health, generally treated as chronic indigestion are all practically surgical cases.

6. In repeated small hemorrhages, or the so-called chronic hematemesis with persistent anaemia surgical intervention is indicated.

#### Discussion on the Paper of Dr. Stewart.

Dr. A. J. Ochsner, of Chicago: Mr. President, I have been very much interested in the paper of Dr. Stewart, and am also interested in the treatment of gastric ulcer. Dr. Stewart's case illustrates a class of cases which we have not very clearly understood until recent times. Even the sequel of the case has a very distinct bearing upon this class of cases. I am not positive as to the exact number of cases of gastric ulcer I have operated upon, but the number exceeds one hundred, and of this number there is quite a proportion of cases in which one could develop by careful study the condition of appendicitis in childhood or early in life, accompanied with gastric disturbances. Now and then, I believe that the etiology of gastric ulcer in these cases is as follows: I believe that the presence of a club-shaped appendix containing mucus and enteroliths affects the ileocecal valve, so that the passage of intestinal contents into the cecum is obstructed. In the case reported there was a large, club-shaped appendix, which was perforated near the end. I believe that the distress of which these patients complain is due largely to interference with the passage of intestinal contents into the cecum; that these patients have, first, a physiological obstruction at the ileocecal valve, then a physiological obstruction at the pylorus, and that this in turn favors the formation of ulcer of the stomach. Many of these cases have had appendicitis and later on developed ulcer of the stomach. At first, it seemed in these cases that one or the other diagnosis must have been wrong, but I believe the histories of the cases have shown that there is a definite etiological relation, and that ulcer of the stomach is some times second-

dary to the obstruction of the ilio-caecal valve due to appendicitis.

The points made by Dr. Stewart as regards treatment were excellent. In the first place, difficulty arises from a lack of drainage through the pylorus; that is, the stomach accumulates residual substance, which is a good feeding place for the microorganisms of decomposition and sepsis, and this in turn favors the development of gastric ulcer. Obstruction increases the accumulation of mucus in the stomach, which first serves to protect the ulcer, but later on also covers the food, and in order to secure digestion, there must be an increased secretion of hydrochloric acid for the removal of the mucus that covers the food, and this in turn will act as an irritant upon the ulcer and will increase ulceration, so that a vicious circle is developed. Free drainage should be established by making anastomosis at the lowest point of the stomach, to have it funnel-shaped, so that food must pass into the intestine. Consequently there will be no vomiting of bile, and the so-called vicious circle does not occur when we have made our anastomosis at the lowest point of the stomach, as has been brought out by Mayo, of Rochester. Having made an anastomosis in this case in a greatly dilated stomach, the ulcer healed in the pylorus and digestion was normal for a time, and the anastomotic opening was no longer needed and consequently it contracted until it had attained the size of a lead pencil, when the irritation reopened the ulcer in the pylorus, which again resulted in obstruction and a return of the entire series of symptoms. Consequently an enlargement of the gastroenterostomy opening and excision of the pylorus were indicated to establish as nearly as possible normal conditions. There is a certain proportion of cases of pyloric obstruction due to ulcer with subsequent gastric dilation in which the patient is relieved temporarily by a gastro-enterostomy but in which subsequently the same symptoms which necessitated the primary operation are re-established. It seems that the drainage of the dilated stomach into the intestine through the anastomosis opening relieves the ulcer of the irritation due to contact with food and residual stomach contents and that consequently the ulcer heals and the induration about the ulcer as well as the spasmodic contraction of the pylorus having subsided the passage of food from the stomach into the intestine can proceed nearly normally. There is consequently for the time being no further physiological use for the anastomosis opening and this may become greatly contracted or entirely obliterated.

It frequently happens, however, as in Dr. Stewart's case, that the pyloric ulcer reopens and this in turn brings about the original symptoms.

Whenever this happens the treatment used in this case is indicated. The gastroenterostomy opening should be enlarged and in order to prevent a further recurrence the pylorus should be excised.

In the last eighty cases I have made the gastro-enterostomy opening seven and one-half c. m. long in order to prevent contraction.



In these recurrent cases we make the ordinary pylorotomy. Until recently we had the impression that a pylorotomy was a serious operation. As a matter of fact, it is one of the simplest operations that a good surgeon can do, if he does it in as reasonable a way as he would do any other operation. The lesser omentum above, the greater omentum below the pylorus should be first located. An inch and a half or two inches of duodenum can be manipulated without difficulty; consequently it is necessary only to make a small tear in the lesser omentum and another in the greater omentum in order to isolate the pylorus. Pressure forceps are applied above and below the pylorus which is excised together with the ulcer. This produces a condition very similar to that which is present after having clamped off the appendix. If it is desired simply to invert the end of the intestine and the end of the stomach, a circular suture placed about their ends and tightened will force or shove the crushed end of the intestine into the lumen of the intestine. This finishes the operation, with the exception of the insertion of a few superficial sutures, to enforce the original suture. At this point it may be well to go a step further, which was done in this particular case.

Some four years ago Professor Rodman, of Philadelphia, brought up the matter of disposing in these cases of the ulcer-bearing portion of the stomach. This portion of the stomach which contains seventy-five per cent. of all ulcers, and almost an equal percentage of all carcinomata of the stomach, may be readily removed without difficulty by simply successively grasping the greater omentum and the lesser omentum until a point beyond the ulcer-bearing portion has been reached and then simply repeating the other procedure, applying two pairs of forceps, and cutting between them again and inverting the stomach. This portion of the operation is simple.

It has not been determined in what proportion of cases this more extensive operation should be employed, but there is no doubt, but what it is worthy of serious consideration.

## THE LORENZ OPERATION AS SEEN IN THE AMERICAN STATISTICS.

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Dr. Ridlon has recently published in a few articles (*Journal of the A. M. A.*, April 16 and 23, 1904) the experiences he has had with the bloodless reduction of the congenitally dislocated hip-joints; the author in this paper brings before the public statistics of the results he himself has obtained since 1897 in this field and the results of some

cases operated upon by Dr. Lorenz during his stay in America in 1902. Certainly the great interest aroused by the accessory circumstances of Lorenz' visit, shared by the profession as well as by the laity, makes a statement about the efficiency of this operation which is a comparatively new one exceedingly desirable.

The value of every new method must be tested in the most thorough way and has to stand new tests in every country to which it is brought even though it should have been recognized abroad as very effective and useful. But in making these tests, we should not be prejudiced; our judgment should not be too sanguine, nor should we permit skepticism and unfounded refusal to control our mind.

Certainly Dr. Ridlon in criticizing the Lorenz method does not fall into the first mistake. This is to be seen from his comparison of the Lorenz operation with "the excision of the breast for cancer which we did not condemn, when the ultimate mortality was 90%." This comparison of the Lorenz method by which its ultimate results are characterized so far as perfect anatomical cures are concerned, seems to me out of place here and more than pessimistic.

Dr. Ridlon explained his opinion as he was able to form it from the published facts collected by him. I do not wish to criticise these facts, but wish to state that a mere enumeration of the cases with the results regardless of the age limits can not clear this question, especially when important features of the after-treatment are omitted. As Dr. Ridlon for instance says nothing about the very important secondary replacement in those cases, that he reports as "anterior transpositions,"—(head prominent in the groin or on the horizontal branch of the pubic bone)—I think I am justified in making this remark.

Dr. Ridlon's statements on the Lorenz method are in need of rectification; otherwise it would seem, that we approve of his skepticism.

First I wish to give a few preliminary notes about the dispute between Paci and Lorenz concerning the claim of priority. I

think a clear statement in this direction is very important, as by Davis' representation of this subject, quoted by Ridlon, the differences of these methods are obscured to such a degree, that if Davis' representations were right, Paci indeed would have played the most conspicuous part in the development of that which we call today the Lorenz method.

That this is not the truth an analysis of the principles of both methods, will show.

The most prominent features of the Lorenz method are the following:

1. The essential point for the success of the treatment, and, therefore the aim of the operation is the reposition of the head *into* the socket.

2. This is performed (a) in small children by rectangular flexion of the thigh, simultaneous pressure on the trochanter and traction combined with abduction or (b) in older children by ultraphysiological movements of abduction with simultaneous pressure on the trochanter in rectangular flexion of the thigh.

3. The result thus gained is maintained by the *ultraphysiological* position of abduction of the thigh, which is brought in this position from a rectangular flexion. Position of greatest contact of the parts of the articulation, position of greatest stability.

4. The changes in the position of the leg caused by the operation and the fixation are corrected by the subsequent treatment with careful consideration for maintaining the stability.

The standpoint of Paci will be briefly demonstrated in a similar way but instead of quoting personal views of the different authors or reports which are often not well understood, I wish mainly to quote Paci's own words.

Ad. 1. Regarding Lorenz's requirement given sub 1. which urges the reduction of the head of the femur into the socket as the first principle of the treatment, I quote Paci in one of his papers (Wr. klin. Wochenschr. No. 25 and 33, 1896):

"The result (of Paci's operation) is often an excellent one, as the head retakes its natural position in the socket, so that there is a real and positive reduction. But one

does not always succeed in doing this. The head may place itself below the anterior superior spine or outside of it."

And in another place in the same paper: "Was it not the case that not only Lorenz but also most of the other surgeons attacked me thinking that I spoke of a real reposition into the socket." Further: *Revue d'orthop.* 1894 p. 233.

"If the surgeon is able to reduce the head of the femur towards a place of the bony surface of the pelvis more or less near to that which is physiologically developed into the socket—and if he succeeds in keeping it there, one gets finally a complete organization of nearthrosis."

From these explanations it may be perceived that 1. Paci did not aim at an anatomical reposition strictly, but that he got it occasionally under certain circumstances as an accessory result, (he however failed to show this), 2. that he did not characterize the anatomic reposition as the principle of his method. Therefore we meet in his description the rather vague expressions: "reduction of the head in the neighborhood of the acetabulum or place nearer to the socket" and so on, instead of strict anatomical terms.

Ad 2. The description of the four Paci manoeuvres, I quote from the papers mentioned above: (a) Flexion and pressing of the thigh in axial direction, "it is sufficient in proceeding with flexion to keep within the physiological limits." (b) Abduction, "it may be continued until the knee stands about 15 cm distant from the lateral line of the body in an outward direction." (c) Rotation, "an outward rotation of the thigh is executed and at the same time the abduction is increased." (d) Extension, "with stopping at the point where reposition occurs."

Regarding the slight degree of abduction, he is recommending, he says: Lorenz however advises forcible abduction and states positively that it is by this manoeuver that the reposition is effected. I may be permitted to prove the impossibility of executing such a degree of abduction (Paci means the ultra-physiological abduction) as this is

almost prevented by the abductors even in a normal person; certainly one cannot succeed in doing this in a case of congenital hip dislocation, even though the thigh should be flexed."

Paci himself highly appreciates the phase (c) Rotation, and says: "I think it proved by the above statement that a reposition cannot be effected by the third phase of Lorenz's method (Abduction). Well knowing this fact I added to the abduction, rotation in order to overcome the resistance of the abduction." Although the anatomic foundation of this last sentence is not quite clear, the meaning of the same needs no comment.

tors is overcome. This is rather enigmatic. The resistance of the adductors, which after Paci cannot be overcome by abduction is surmounted by the Lorenz method by Myorrhesis and in some cases by tenotomy. As Lorenz in the beginning operated upon small children only, the adductors did not present special resistance giving way of themselves. In older children Lorenz used to resort to tenotomy until later he performed the myorrhesis methodically in all cases.

When Paci states that a moderate degree of abduction suffices, this will do certainly for bringing the head nearer to the acetabulum, as Paci urges; Lorenz however does



FIGURE 1

In these sentences Paci simply denies the possibility of accomplishing a reposition by abduction after the Lorenz method; therefore according to his opinion Lorenz could be nothing less than a plagiarist. Negation instead of criticism. In another place Paci says: "The 3. Lorenz movement is abduction; I execute it in the second place but only slight abduction as that is sufficient. This slight abduction is adapted to the mechanical condition. But Lorenz wishes forced abduction and claims that in doing this, reposition of the head is produced."

Paci pretends here that it is only by his manoeuvre of rotation (his 3 phase of the operation) that the resistance of the adduc-

not confine himself merely to bringing the head nearer to the acetabulum, but urges replacing it by abduction, the same motion which Paci declares unable to accomplish a reposition. From this passage alone it may be perceived that abduction with Lorenz and with Paci means different things.

In fighting and criticizing the Lorenz method Paci himself points out the differences very well but does not concede that the Lorenz method is entirely different from his regarding the aim as well as regarding the means.

The method of Lorenz applied in small children "the off hand reposition" differs so much from Paci's method that there is no



need to point out the differences. Only in older children where the block is used to accomplish the reposition the Lorenz manoeuvres require some special explanations. A brief juxtaposition of Lorenz and Paci's procedures does not seem out of place.

Paci flexes the thigh at an acute angle abducts slightly, and rotates the femur; in favorable cases the head comes below the acetabulum and *in making the extension* he accomplishes sometimes—always favorable conditions provided—a reposition over the inferior rim of the socket.

Lorenz flexes the thigh rectangularly thus bringing the head behind the acetabulum, abducts beyond the physiological limits and

preambulary manoeuvres, the movement of the ultimate position or reposition (if it be allowed to say so) being the 4th phase the extension. With Lorenz the rectangular flexion is the preambulatory manoeuvre, the movement of the reposition being the abduction or properly speaking the ultra-physiological abduction.

Abduction in a general sense was introduced and recommended for the treatment of traumatic dislocations before Paci and Lorenz, by Malgaigne, Fabbri and others and cannot be regarded as anything new. Also the experiments to reduce the head of the congenitally dislocated femur cannot be regarded as new, as Pravaz, 1838, and many



FIGURE 2.

causes a reposition over the posterior rim by continued abduction.

The apparent relation between the two methods is caused by the use of the abduction in both, in order to secure a new place for the head—being *the socket* in Lorenz's, a *place near or below the socket* in Paci's method. With Paci the abduction combined with the flexion and the axial push of the thigh has to press the head below the level of the acetabulum, with Lorenz the increasing of the abduction of the rectangularly flexed thigh brings the head over the rim into the socket.

With Paci therefore the flexion, abduction and rotation of the thigh are nothing but

others worked on this same problem. But indisputably new was the introduction and the use of the ultra-physiological abduction, which in the operation on older children proved most effective and which during the period of fixation represents the main factor for securing stability.

Ad. 3. The fixation of the result is brought about by Paci (Rev. d'orthopedie) by a plaster cast in slight abduction combined with extreme cetroration and artificial extension of the thigh by weights (4-6 Ko) during the first month. Paci thus fixes his ultimate position: Lorenz likewise fixes his ultimate position but in his case it is ultra-physiological abduction of the rectangularly

flected femur without any special rotation of the same. This is to be seen from the fact, that Lorenz does not lay any stress on the fixation of the inferior part of the leg.

While the manner of fixing in Paci's method corresponds more or less to the manner of fixation in cases of traumatic hip dislocations, Lorenz in fixing his ultra-physiological position was quite original. Lorenz followed this course even in his first attempts as it was shown by the presentation of some cured cases at the meeting of the I. R. Soc. of Physicians in Vienna, Jan. 31, 1896, where the ultra-physiological positions were mentioned (*W. klin. Woch.*, 1896 Nr. 5).

While Paci keeping his patients in casts

It is quite different in Lorenz' case; the femur rectangularly flected and ultra-physiologically abducted demands the correction of patients to walk around and bases on this position.

How little Paci conceived the characteristics of the ultra-physiological abduction is to be seen from his paper quoted above: He emphasizes the fact that, "he himself fixes in slight abduction and that Lorenz relinquishes his extreme abduction in the course of the treatment," so that he cannot find any difference between the degree of his abduction and that of Lorenz'. Paci seems to think, that the ultra-physiological position with Lorenz is an unnecessary means adopted only



FIGURE 3.

confines them to bed, and applies besides an extension (apparently not quite trusting to the stability of his result), Lorenz allows his circumstance, whether rightly or not, the theory of the functional development of the socket by bearing the weight of the body. Paci makes the same claim for his method. I personally do not attribute enough importance to this instance to enter into the details of the subject.

Ad. 4. An after treatment according to Lorenz is not to be found in Paci's method, as the leg a priori is fixed in a position so little different from the normal position, that there can be but very slight anatomical changes as far as the position is concerned.

to veil his plagiarism, a position which could as well be corrected immediately to a slight abduction and fixed in this way. Everyone who has had the opportunity to see or to perform an operation after Lorenz must admit that this opinion is wrong, as the diminishing of the degree of abduction and the bringing down of the leg to a position of slight abduction is the well known manoeuvre of redislocation used in order to try the stability of the joint.

This passage quoted above is quite a good proof that Paci was not familiar with the history, the aim and the value of the ultra-physiological positions used by Lorenz.

I am intentionally as brief as possible, only

pointing out the main features and not giving too much of a comment. If these arguments do not establish the great differences between the two methods, I can only suggest a re-investigation of Paci's different papers.

The much talked of specimen from a child with a double congenital dislocation operated upon by A. Nota (*Atti di Congr. internat. Roma 1894*) showing anatomical replacements does not prove much. In this case the reduction was brought about as a chance result, which under very favorable conditions Paci's method is able to accomplish sometimes. But in the practice of Paci's method such a result is rather the exception than the rule. Surgery however, cannot depend upon possibilities or probabilities but has to be based upon certainty and theoretical exactness; therefore we are indebted to Lorenz for his having done away with the nebulous conceptions that were brought about by Paci's method.

It seems rather strange that Davis, who is quoted by Ridlon finds no difference between the Italian and Viennese method except the violence of the latter. He says: "Outside of the use of excessive violence, extension, increasing the abduction and tearing of the muscles, the method remains one of circumduction like Paci's." It is hard to understand, how anyone who saw Lorenz operate and who had at hand Paci's publication, as I must presume Davis had, can say this. It seems to me that Davis in his criticism quite lost sight of the different phases of the operations and overlooked the great merit of Lorenz who based his treatment on an anatomical basis, and who taught us how to secure stability.

What other surgeons think of the "violence" may be seen from a statement of an authority like Brun in Paris. He says:

Conforming to Lorenz' manner of operating, i. e., working with force, I am frank to say even with brutality, I got a perfect result in a girl recommended to me by my colleague and friend, Mr. Felicet. The perfection of the result is evidenced not only by the disappearance of the limping but also by the X-Ray picture, which I demonstrate

(*Seance de la soc. de chir. 15 III, 1899, Paris*). In five cases Brun identified the result of the anatomical reduction of the dislocated femur-head by the X-Ray picture taken immediately after the operation.

The report of Brun is very interesting because it emphasizes as very important for obtaining a good result the very violence which Davis considers unnecessary and injurious. In some cases of course violence can be dispensed with, that is in cases where the muscles are atonic and the anatomical conditions very favorable. In other cases however, where poor stability necessitates the enlarging of the anterior part of the capsule or where an intended suprapubic position has to be worked out, I can hardly see any way to succeed without force.

But these two methods differ not only in theory but in practice as well i. e., as far as the results are concerned.

Many authorities can be cited for this. Especially interesting from this point of view is a statement of Ghillini (*Revue d'orth, Mars 1898*) who actually reports of three cases operated upon by him after Paci without success and fourteen cases successfully operated upon after the Lorenz method. This testimony given by a compatriot of Paci deserves special emphasis. Another report of the "efficiency" of Paci's method by Phocas (*Revue d'orthop, 1892, Fevrier*) says: Neither at Torino nor at Milano could they show a child cured by Paci's method.

About the claim of Schede that he was the first to emphasize the importance of the functional weight-bearing for the development of the acetabulum, it may be stated that his publication (*Congress der deutschen Gesellsch. f. chir, Berlin 1894*) on this subject did not show clearly the fact that in his abduction splint the limb had to bear the weight of the body. I may be allowed to quote a few lines of one of his publications; he says:

"In the cases of four children who were a little older, girls of eight and nine years, a satisfactory result was obtained in three by wearing the abduction splint during five and six years—in these cases care was taken to keep the bulk of the body weight from



the joint by means of a pelvic support attached to the splint.

This passage influenced the opinion of some orthopedic surgeons such as Lorenz, v. Mikulicz, Hoffa and Delanglade to describe the Schede abduction splint as an apparatus taking the weight of the body from the leg. Everyone must agree that after this description neither Lorenz nor Delanglade nor Hoffa nor v. Mikulicz can be blamed for having misunderstood the aim of this appliance. Although this may be of little importance, I wish to call attention to this fact, as Lorenz acted in bona fide claiming that he was the first to introduce into the therapy the principle of "weight-bearing."

As to the terminology I wish to make a few remarks, as there is some obscurity in the term, "transposition." Ridlon mentions this term several times and in the discussion of his paper several of the prominent orthopedic men in New York as Gibney, Townsend, Whitman likewise use it. From this I learn that the expression "transposition" is used among my American colleagues for denominating different positions, which as to prognosis as well as to etiology are entirely different; they have in common the only fact that they are not complete anatomic replacements.

The term transposition is largely used in Germany and France and is to be found in many publications; it always means that the head of the femur has been brought from the posterior surface of the pelvis to the anterior surface of the same. It is used by Ridlon and the above quoted surgeons in this general sense; a number of other authors however understand by this term only a special position of the head on the front of the pelvis i. e. the position where the head stands below the anterior superior spine. In Ridlon's paper the term "transposition" seemingly signifies the position of the head above the socket ("Supracotyloid position") as well as the position, where the head stands before the socket in the direction of the medial line more or less in the level of the Y-shaped cartilage ("Ridlon's anterior transposition.") I think it is more advantageous to do away with the term "transposition" and

to characterize the positions by their anatomical characters, thus calling them subspinal or superacotyloid position and pubical or supra-pubical position, as in the latter case the head is leaning against the horizontal branch of the pubic bone or in some cases even resting upon it. The first position might also be called less nicely anterior superior redislocation.

Both positions however are to be distinguished because of their difference regarding prognosis, etiology and treatment; therefore different terms should be applied. In the paper which I published with Dr. D. D. Ashley in New York in the New York Med. Journal, Sept. 10, 1904, we dealt with these two positions very carefully and the subject seems to me important enough to quote the corresponding paragraphs.

"While division 4." quite frequently will give an irreproachable anatomical result, there cannot be an anatomical result in divisions 5 and 6, while the functional results in division 5 in almost all cases, are entirely satisfactory.

Group B-4. The head is located on the horizontal branch of the pubic bone (suprapubic position.)

The diagnosis of this position can be made unmistakably by mere inspection. The head of the femur protrudes from the groin as a prominence about the size of an English walnut.

Palpation will solve any possible doubt. Since this prominence is hard, smooth, can be grasped with the fingers, and participates in all the movements of the femur, noticeably of rotations. The exact location of the prominence varies within narrow limits, depending upon how far the head had proceeded upon the pubic bone. Generally speaking, it will always be found somewhat in front and above the acetabulum.

We can distinguish two types of the supra pubic position or dislocation. One of them is due to the intentional dislocation of the head upon the horizontal branch of the pubic bone. The second type is the result of an accidental dislocation of this kind. The intended supra-pubic dislocation is a procedure which is called by Lorenz "the placing in

store of the head." In case it should be absolutely impossible to find any kind of fixation in the region of the acetabulum, we stretch and distend, by means of the femoral head, the anterior part of the capsule, to such an extent that the head slides up on to the pubic bone.

It is evident that this position completely excludes a sliding backward of the head, and it is fixed in this position by a cast which remains for six months. In this way we do not accomplish a reposition in a strict sense, but we succeed in securing a preparatory step for the reposition, by having removed the muscular and capsular resistance, and by inducing the shrinkage of the pelvitrochanteric muscles and the posterior wall of the capsule.

By this shrinkage, the last mentioned textures are used for the fixation of the femoral head, which was previously without possible fixation.

The unintentional supra-pubic dislocation may frequently be seen after removing the first cast, if during the operation the anterior capsule was stretched too far, and if upon the occasion of the application of the cast, extreme abduction with superextension was adopted. Superextension, especially, enhances the liability of this dislocation, which will appear under the influence of the pressure of the cast, and as a consequence of the tension of the muscles.

This abnormal position invariably calls for the reposition of the head within the acetabulum, and for fixation by means of a second cast. This secondary reposition Lorenz calls "depression of the head." The thigh in the primary position of maximal abduction and rectangular flexion is given slight extension, with abduction and simultaneous inward rotation. The head disappears from the groin. If the reposition was a success, we fix the member in the position which shows the least danger for the stability of the joint, namely, abduction about  $45^{\circ}$ , flexion about  $30^{\circ}$ , and neutral rotation. It is rather hard to formulate general rules, as each case must be individualized, to secure the desired depression without jeopardizing the anterior position, since it is evident that

if we adduct and flex too far, and there is a shallow acetabulum, we may have a posterior luxation. Hence we should never omit to make examinations on the second, third and fourth days, to ascertain the position of the head. If it has resumed the supra-pubic position, a new cast should be applied under reduced abduction and increased flexion. Should the head be found traveling backward over the acetabulum, the abduction must be increased, and the flexion approach the primary position.

All of these casts call for a thorough and reliable technique, since they must fix the pelvis and thigh. The beginner will not be able to avoid failures on this score. These casts should be worn from two to six months, during which time the patient walks around, aided by insoles, the height of which must be adjusted according to the position of the limb.

It is expedient to anesthetize patients for a short time, in order to more satisfactorily perform the depression. A few drops of chloroform, or the Aetherrasch narcosis, are sufficient. If narcosis is dispensed with thoroughly reliable assistance will be absolutely necessary, and the operator must be thoroughly conversant with the method of procedure.

When the proper degree of stability has been obtained, the cast is removed, and the typical after-treatment carried out, furnishing uniformly good results.

Group B-5. The head is located above the acetabulum, underneath the anterior superior spine.

This position is called by some few authors, a transposition, but the name sub-spinal seems to be more appropriate to designate this position, which is quite often found to have developed following a good anatomical reposition.

The cause of the non-retention of the head within the acetabulum lies either with unfavorable anatomical conditions, or with shortcomings in the applied technique. It is a fact that inexperienced men will always produce a large percentage of sub-spinal positions. The most frequent mistakes are insufficient fixation in the cast, and insufficient

stretching of the anterior wall of the capsule; or a forced transposition, after having failed to reduce completely. It is quite often possible to predict a sub-spinal position at the time of the operation, generally in patients beyond the age limit, where the head has become markedly deformed. a. s. o."

The treatment of the suprapubical positions is here explained and in the main features the descriptions exactly correspond with the explanation which Lorenz gives in his text book. The greatest stress has to be laid on the fact, that the supra-pubical positions require subsequent interferences, a fact which apparently was not recognized (see below page 1) by Ridlon. Ridlon's cases 77, 79, 83, 88 and others belong to this group. As Ridlon as is shown below does not believe in the possibility of securing a secondary replacement and nothing has been mentioned about this subject in the history of the cases, I think my view given above is right.

The secondary replacement of the head in such cases not only corrects the extreme ectorotation of the leg which appears after the extremely abducted leg is brought down, but combined with suitable after treatment gives mostly an anatomical result. Therefore it is not permitted to add cases such as above quoted to the class where anatomical results have not been obtained. Such a case cannot be discussed as long as the most important part of its after treatment is wanting.

Far from regarding the suprapubical positions as not desirable I would say that in some case where the stability is extremely poor they are a therapeutic measure of the greatest value.

About the etiology of the supra-pubical or pubic positions Ridlon says: "When anterior transposition (i. e. pubic position) results it appears to be due to too freely tearing the tissues in front of the joint; when these are healed they are not sufficiently strong to retain the head in the acetabulum if the head is again replaced." By "tearing the soft tissues" he can only mean the adductors, a fact, which he explains later on saying (p. 1068 l. 6) "if one tears them

(the adductors) too freely anterior transposition may be the result."

The tearing of the adductor muscles by no means plays the part in this question as Ridlon would lead us to think. The resistance of the adductors has to be considered only so far as it has to be removed, whenever ultraphysiological abduction has to be performed. For the production of the pubical positions however, only the condition of the capsule comes into consideration and especially the enlargement (artificial or natural) of the anterior part of it. This is to be seen very clearly if such a supra-pubical position is intentionally produced because of the very poor stability of the joint. In such a case even if the action of the adductors is completely annihilated and even if extreme abduction is applied the head does not change into the pubical position. Only if the anterior wall of the capsule is artificially enlarged and in extreme cases its insertion with a part of the periostium is levered off, the head does appear in the said position. The head is placed then immediately underneath the artery and in some cases inside of the same. In case of accidental production of the pubical positions it is justified to make the same condition responsible which is pointed out above in the analysis of the intended pubical positions. The elongation and enlargement of the anterior part of the capsule was an artificial product in those cases: in the class with which I am dealing now the same conditions are present, but preformed by nature.

In such cases where unfavorable development of the socket necessitates a rather extreme position of abduction, three conditions may combine for the production of an unintended supra-pubical position, namely, the extreme abduction, shallowness of the acetabulum and the spaciousness of the capsule. The head bellies out the capsule towards the medial line of the body by and by placing itself in this recessus and appearing in the same position in which it is found after an intended "storing of the head."

As the treatment has been mentioned already, I have nothing to add.

Dr. Ridlon however is of another opinion about this subject; he says: "Lorenz teach-



ings have led me to assume that he expects in some instances to obtain a perfect anatomic replacement in some cases where the femoral head is in anterior transposition or apposition, when the splint is removed. I doubt very much if this will be found to be possible. At any rate it has not been demonstrated nor do I believe that any of supracotyloid displacements will by any bloodless procedure be made perfect replacements." That a pubical or superpubical position (Ridlon's anterior transposition) *may be changed into an anatomical reposition is shown by picture Nr. 3.* Ridlon's case 12, which I will discuss later on. Concerning the reduction of sub-spinal or supracotyloid positions into anatomic replacements Lorenz has never made any remark, nor did he ever claim that he did it. I personally have the conviction, that under certain circumstances it is possible to replace anatomically a case of sub-spinal position; at least a number of cases upon whom I operated since October, 1903, in order to improve the subspinal position show a perfect anatomical replacement as well by clinical as by X-Ray examination (May, 1904). But as I think that this question has not been sufficiently investigated I do not wish to discuss it further now.

It is only left to say a few more words of the statistics given by Ridlon. I do not wish to discuss whether it was necessary to add to the statistics given by Ridlon, Group No. 1, where the cases did not get any treatment or Group No. 2, which signifies Ridlon's first attempts and Group No. 4 which includes cases that cannot be regarded as finished for a long time. But even the cases in group 3 cannot be regarded as free from any objection and suitable for drawing reliable conclusions.

Regarding cases 12, 16 and 33 which were under my care it would have been in keeping for Dr. Ridlon to confess that he saw case 16 only once and that a few weeks after the operation and that he was not able to examine the cases 33 and 12 after the removal of the casts at all. Therefore his report about the results in this case has only a problematic value and contains little truth. In case 33 Ridlon's report reads as follows: Case 33. Female, age 4 years; both hips; shortening

11 $\frac{1}{4}$  inches. Operated on Dec. 30, 1900. Right hip released during the second month while in the plaster splint, and treatment of this hip was abandoned until a good result should be had on the left side. The plaster splint was removed from the left hip at the end of seven months, and replacement was apparently perfect. During the following three months the femoral head came forward far enough to be felt in the groin. Dr. Fenger was of the opinion that it was an anterior transposition, and such I have reported it. The child walked on this limb for eighteen months without any shortening resulting, and when Professor Lorenz operated on the right hip on Oct. 12, 1902, he examined the left hip and said: "That hip is good enough for any one." He did not say whether he considered it a perfect replacement or an anterior transposition.

When Professor Lorenz removed the splint from the hip he had operated on (the right) the limb was found to be shorter than the one I had operated on, but the head appeared to be in place. After about three weeks of daily massage and manipulation by Professor Lorenz an anesthetic was again given and the limb again stretched and manipulated, and again put in a plaster splint. The result has been stated by Professor Lorenz to be an anterior transposition, or "apposition," less good than the result in Case 16. The result is: Left side operated upon by Dr. Ridlon; sub-spinal position (anterior superior redislocation; ) Right side operated upon by Dr. Lorenz: anatomical replacement combined with some rigidity as is very often the case after operations in older children. It is the object of the after treatment to do away with this rigidity, which always disappears within a shorter or longer time. The shortening of the right limb after the removal of the cast, cited by Ridlon, as well as the fact that Lorenz called the result an apposition less good than the result in Case 16 is but a fabulous story.

Ridlon's report reads: Female; age 3 years; left hip; shortening  $\frac{3}{4}$  of an inch. Operated on March 21, 1898. At the end of 13 months, when she passed from my care, head was apparently in place; there was  $\frac{1}{8}$

inch shortening, and she walked with scarcely a limp. During the following winter she was treated by an osteopath for three months. I was permitted to examine the child 19 months after she passed from my care. There was a  $\frac{5}{8}$  inch shortening and the head could be felt above the acetabulum. The parents, trusting to the assurances of the osteopath that the hip was in place, refused to have a skiagram made and refused to believe that relapse had occurred. Two years later Professor Lorenz operated. The replacement was effected with ease for a seven-year-old child, as easily as most primary replacements in children of four. The acetabulum appeared to be good; and a perfect replacement was prognosticated as the ultimate result. When the plaster splint was removed some eight months later Professor Lorenz told the child's father that the head was in anterior transposition. This case illustrates the difficulty of prognosticating the final result at the time of operation.

Dr. Ridlon's Case No. 16. I am able to demonstrate by two X-Ray pictures No. 1 having been taken before the operation performed by Lorenz about ten months ago, and No. 2 having been taken beginning of May, 1904. No. 1 is a specific picture of a congenital hip dislocation showing it on the left side; as No. 1 shows some very interesting details, I may be allowed to give a few notes in reference to it. The head is slightly deformed, a little twisted forward the socket rather spacious although shallow in picture. The superior bony rim is very markedly developed. As however, the stability, appeared to be very poor during the operation, it is very probable that the cavity of the socket was filled up with cartilaginous layers. Picture No. 2 shows the head not quite in the center of the socket, but in the socket, that is entirely sheltered by the superior part of it. The center of the head because of this reason and because of its smallness stands a little higher than the Y-shaped cartilage (ca  $\frac{1}{2}$  c.m. higher). Not only is the head sheltered by the socket, but its upper part seems to be laterally surrounded by a bone—shadow, probably the newly produced superior and exterior rim.

This is a flagrant proof for the possibility of the socket developing and adapting itself. This result can only be called a very good one especially in consideration of the fact that the child was operated upon before, with the result shown in picture No. 1—i. e. a complete posterior dislocation,—and in consideration of the age which was very close to the limits for this operation.

The clinical examination (1904) shows the great trochanter a few milli-meters (5 mill) above the Nelaton line; the head is submerged in the groin, the joint itself is very firm and solid against push from below; there is full motion leaving only a slight degree of abduction, which will disappear in time. The result is expected to be a permanent one at any rate as nearly two years have elapsed since the operation, and over one year since the removal of the cast. How Ridlon is justified in representing the case as an "anterior transposition" (pubical position) may be judged upon by the readers.

I come now to case 12. Ridlon's report says: Female, age 4 years; right hip; shortening 1 inch. Operated on September 28, 1897. The plaster splint was worn nine months. A year later, June 14, 1899, *the hip was apparently in place*; there was a  $\frac{1}{8}$ -inch shortening, and the patient walked without a limp. Three years later Dr. T. A. Davis presented the case to Professor Lorenz, and he operated. Some eight months later Dr. Davis removed the splint put on by Lorenz, and the femoral head at once slipped from its resting place in or near the acetabulum. Dr. Davis replaced the head and put on another plaster splint. The present condition is unknown; the parents refuse to permit an examination or a skiagram. The child walks with a limp and probably has a supracotyloid dislocation. Here I would correct the remark of Dr. Ridlon, that the parents refused to permit an examination or a skiagram. The parents did not refuse but referred Dr. Ridlon to me since the child was under my care. I should have been delighted if Dr. Ridlon would have called on me for an examination of this child. When the child came under my care she was wearing a cast made by Dr. T. A. Davis. After removal of this cast it was seen that the ab-

duction was corrected half way, but that the "reduced" head (as stated by Ridlon) was still on the horizontal branch of the pubic bone.

I was sorry to tell the parents that a secondary replacement and another cast were necessary. The secondary replacement was performed without anesthesia and has held the head in its normal place ever since.

X-Ray Picture No. 3 taken 9th of May, 1904, shows the conditions as they are at present. The head (left side) is a little irregularly shaped and a little smaller than its socket, and the light semi-circular area between head and socket shows nearly normal conditions. Such a result can be called an anatomical one in the fullest sense of the word.

A clinical examination shows the head submerged in the groin and allowing perfect motion; the outward rotation of the leg is corrected, and the child walks without any limping.

I hope that I have been able to show by this X-Ray picture that Dr. Ridlon's assumption, that the child has probably a supercotyloid dislocation lacks foundation, and likewise it is quite evident in spite of Dr. Ridlon's opinion to the contrary that pubic positions can be changed into anatomical replacements. As I was able to recognize in Dr. Ridlon's statistics only three patients: cases 12, 16 and 33, I am not able to go into the details of the other cases separately but may discuss them only as a whole from the standpoint of the statistics.

Speaking in a general way, I cannot approve of Dr. Ridlon's method of taking statistics. Firstly, I scarcely believe that enough time has elapsed to warrant to regard cases operated upon in October, 1902 as finished. For the purpose of comparison, I would say that in Vienna I have had the opportunity to observe and to direct the subsequent treatment of over 500 cases and that only a few of them required as much as a year of after-treatment. But apart from this we cannot regard all cases of hip dislocation as equivalent for statistical purposes and especially not those that have been operated upon by Lorenz. It is to be re-

membered as Ridlon loyally states that Lorenz operated always before a large audience and although the cases have been selected, it happened that several cases not suitable for a reposition in one seance (without preparatory treatment) were brought into the operating room already etherized, so that their operation could not very well be forgone.

Another disadvantage was that half of the children were above the age-limit, that is, seven years for unilateral cases. As in older children subspinal positions are more frequent owing to the anatomical changes of the acetabulum and the head of the femur a larger per centage of subspinal position was to be expected.

A third point finally which is not to be overlooked is that several children (3 out of 18) were operated upon before, a fact which always interferes more or less with the result of a second operation.

By these facts of course, only the proportion between anatomical results and subspinal positions is affected, as real posterior re-dislocations ought not to be seen after the operation—good care provided. They are to be seen during the after-treatment only when gross mistakes have occurred.

With reference to this, Ridlon does not report about any posterior re-dislocation; if we too, as he does, call subspinal positions satisfactory results, Lorenz' work has been more than successful in the cases cited. But no particulars of the proportion between anatomical results and subspinal positions can be gleaned from Ridlon's statistics.

The very important proportion between true anatomical reposition and subspinal position can only be derived from statistics taken from intact cases that have been operated upon within the age limits and that have received a suitable after treatment. The method is unfortunately limited regarding the age and if children 12 or 13 years old can successfully be operated upon, it is an exception. The frequency of this exception proves the great value of the method but must not lead us to expect a regular result, say 50% of anatomical results. In these cases it is quite obvious that a method based upon



the development and adapting of the socket by the presence of the head, is fully able to show its efficiency in cases, where socket and femur are in a much more advanced stage of development respectively malformation.

What statistics, with consideration of the age limits tell, may be seen from a statistic of E. Mueller in Stuttgart (*Deutsche Zeitschr. f. orth. Chir.*, 1903,) who reports twenty-eight anatomical replacements in forty cases (age between 1 and 8 years). Joachimsthal in Berlin who reports 17 anatomical replacements among twenty-three cases (age between 1 and 7) and Drehmann, Breslau who reports forty-three anatomical results in fifty-six cases. Considering these facts the regretful strain of Ridlon "over the mislead public opinion in spite of the statements of honest and skillful operators," does not seem to be justifiable.

How much more would he have been mourning if Lorenz had made the percentage of anatomical cures 70% or more as did the above quoted surgeons.

The statistics given by Lorenz are not at all too optimistic in comparison with those given above and no one can take exceptions to them on the ground that by his statements the public opinion was mislead. If the treatment of cases rather unsuitable for this operation or the experimenting of a surgeon with this method do not give the best results possible, we cannot blame the method proper. In such cases some results may be gained although not the best ones; it might be that in such cases even Ridlon's quoted 10% of anatomical replacements would be too large a proportion.

This mistake was made in Europe in the same way when Lorenz advocated his method first and the opposition there was based upon the same reasons, until they learned that only a certain amount of experience and close regard of all apparently insignificant details especially in the after treatment are paramount for accomplishing good results.

If any objection can be made to Lorenz statements it lies only in the fact that he declared "the method can be practiced in the smallest village." This is true so far as instruments and preparations are concerned.

but it stands to reason that the country physician, who sees one single case in years is not familiar enough with the different steps of the operation, with technique and especially with the after treatment.

These facts explain also Ridlon's reference to the disappointment of other surgeons over not obtaining the claimed percentage of anatomical repositions.

True the operation can be performed anywhere and by anyone, but it will show its full efficiency in practice and especially in regard to the complete restitution of the joint only in the hands of the specialist, the orthopedic surgeon.

#### ILLINOIS BIRTHS REPORTED.

##### Showing in the Returns to State Board of Health.

During the six months ending June 30, 1904, physicians reported to the secretary of the state board of health, 42,463 births in the state of Illinois. There were considerably more boy babies than girls, 22,552 of the former and 19,814 of the latter. The sex of 102 was not specified in the reports.

There were 41,895 white babies and 573 colored. In 327 instances twins were born and in eleven cases triplets.

The county reporting the largest number of births was Cook county while Peoria gave the next largest returns. In Putnam county but sixty births were reported during the six months.

Triplets were born in Clinton, Cook, Knox, Livingston, Logan, Johnson, Washington and White counties.

The effort made by the state board of health to secure complete returns of births in the state is producing better results than ever before, the returns during the first half of 1904 being better than in a similar period at any time in the history of the board.

**Dr. Geo. E. Krieger**, formerly of Chicago, who departed for Germany with his son in 1903, has appealed to the Appellate Court of Illinois the suit for divorce brought by his wife, Emily Bert Krieger. Judge Gibbons recently declined to set aside the decree granted Mrs. Krieger in May, 1904.

**The Green County Medical Society** at its meeting at Carrollton, selected the following officers:

President, Dr. H. W. Chapman, Whitehall; first vice president, Dr. F. H. Russell, Eldred; second vice president, Dr. James Squire, Carrollton; secretary and treasurer, Dr. H. A. Chapin, Whitehall; censors, Dr. Howard Burnes and Dr. E. S. Gooch, of Carrollton; Dr. F. H. Russell, of Eldred.

The next meeting of the society will be held in Whitehall in December.

# SYMPOSIUM ON CANCER.

## ETIOLOGY AND PATHOLOGY OF CARCINOMA, WITH ESPECIAL REFERENCE TO EPITHE- LIAL METAPLASIA.

BY GUSTAV FUTTERER, M. D., CHICAGO.

*Mr. President and Gentlemen of the Surgical  
Section of the Illinois State Medical Society:*

Thanking you most heartily for your invitation to address your section on the subject of carcinoma, and assuring you of my deep appreciation of this honor, I must ask your forbearance if I do not treat the subject from a standpoint as broad and general as may have been expected.

You all know, that we define carcinoma as a malignant growth, which originates from the epithelial apparatus of the body. It has an alveolar structure, its framework consists of products of the intermediary apparatus of nutrition, connective tissue and blood-vessels and the meshes of its framework, the alveoli are filled with the products of multiplication of the epithelial cells, from which the primary carcinoma took its origin. The growth of the intermediary apparatus of nutrition and that of the epithelial part of the new formation go more or less hand in hand and changes in structure of the carcinoma and secondary degenerations occur as the development of the former or of that of the latter becomes more pronounced. The very first cause of this excessive growth is not known and our lack of knowledge may be explained by the fact, that we can never observe the formation of a carcinoma under the microscope, but that we always, no matter how recent its development may be, find it ready made. While the careful study of very young carcinoma has given us some very valuable information, it has so far thrown no light on the direct cause of carcinoma. Following the formation of the primary tumor according to its character, comes at once, or after many, even ten or fifteen years,

the development of metastases, of which there may be only one, or a great many, and they may be near to the primary tumor or very distant. Whenever they may come and wherever they may be, their essential part is made up from epithelial derivatives of the primary tumor, which have been carried into a distant organ, multiplying there. The cells of the organ invaded do not participate in the building up of the metastases, their interstitial apparatus only furnishes the framework, just the same as it is furnished by the organ in which the primary carcinoma originates. The growth of the epithelial elements is most essential in carcinoma, but a more or less of it, as compared with the development of the framework, only brings variations, without changing the true character of a growth. Outside of furnishing the framework and the nutrition, the organs invaded never participate in the development of metastasis. If, for instance, a carcinoma of the stomach causes a metastasis in the liver, we may observe considerable karyokinesis of the liver cells around the metastatic nodule, but the liver cells do not participate in the least, in the development of the metastasis, and so; to use the same example, the metastases of a carcinoma of the stomach no matter where they may occur in the body represent a carcinoma of the stomach in form and function of their cells. I have seen a carcinoma of the labia majora which had made only one metastasis in the visceral pericardium and myocardium, where its cells produced eleidin. In a primary carcinoma of the liver which I have observed, its cells produced bile and in a primary carcinoma of the thyroid gland particles of the primary growth had grown into the trachea, fallen into the bronchial tubes of the lower lobe of the right lung and there they had multiplied and produced enormous quantities of colloid. There are more similar observations on record and we may take it for granted, that the cells of the metastases keep up the physiological activity of the cells from which the primary growth takes its origin, subject to local conditions.

\*Read at the 54th Annual Meeting, May 17, 1904.

The primary growth and the metastases, together, produce the last act of the tragedy, cachexia. Pains, worry, lack of sleep, local effects of the growth, the amount of nutrition absorbed by the primary tumor and its metastases, and the resulting anemia and atrophy of organs bring on the only too well known clinical picture of cachexia, but every observing physician knows that many of those carcinomatous cachexias, have a stamp of their own, that the cachexia from a carcinoma of the stomach is quite different from that caused by a carcinoma of the liver, or any other organ. Let me call your attention to the fact, that such differences between the various forms of cachexia are to a great extent caused by the over-production and absorption of the physiological products of the cells of the primary growths and their metastases, and their more or less destructive action on the blood. In some cases there is very little cachexia in others it is very pronounced.

It is very desirable that the different forms of cachexia and their causes should be well studied, as such studies might bring out knowledge, which would prove of diagnostic value.

As to the aetiology of carcinoma, we have to consider different theories.

Thiersch, thinks that the origin of carcinoma can be explained by a senile lessening of resistance of the connective tissue at a time when the epithelial apparatus is still very active in its growth. But then there should be more cases of carcinoma and also more cases of multiple carcinomata. This theory is unsatisfactory because it does not give the last cause for the ingrowth of the epithelium.

Cohnheim's theory, concerning the development of carcinoma from aberrant germinal deposits, and the theory of Ribbert, who believes that a sequestration of normal epithelial cells by connective tissue leads to a formation of carcinoma, have not been accepted.

The opinion that parasites are the cause of carcinoma has many enthusiastic defenders, although the reasons for the same are even less numerous and less convincing than

those which can be brought forward in favor of the above mentioned theories. Of the many reasons which can be advanced against parasites as a causative factor of carcinoma, I shall only bring one, which I consider quite sufficient. When cells from a primary carcinoma, let us again say, a primary carcinoma of the stomach, are carried away into a distant organ, for instance the liver, and form a metastasis, then the metastasis proper as has been mentioned already, develops through continued division and consequent multiplication of the cells from the carcinoma of the stomach, while the framework of the metastasis, connective tissue and blood-vessels are furnished by the interstitial apparatus of the organ invaded. As has been mentioned already metastasis from a carcinoma of the stomach always represents a carcinoma of the stomach, no matter in what organ or how distant from the stomach it may develop and the cells of the organ invaded, while they may show some karyokinesis, never participate in the building up of the metastasis. That would be different if the cell embolisms contained parasites for they would infect the organs and in our example a carcinoma of the liver would develop with the metastases from the primary growth, or we would have to stipulate the necessity of the existence of especial parasites for the carcinomata of the different organs which would be rather far fetched.

Virchow has laid great stress on the importance of mechanical irritation and my own observations and reflections make it appear that the causal role which they play is of the greatest importance, particularly mechanical friction of a higher grade. But this alone will not do, there must be disorders of circulation, as they result from friction, and the latter must continue and the epithelial cells must undergo certain changes, which suddenly bring on their tendency to grow downward into the deeper tissues in spite of all obstacles which present themselves. In the fall of 1895 I observed a combination of carcinoma with ulcer of the stomach. A deep ulcer was found just before the pylorus and a carcinoma, which had also made a number of metastases, had



developed on the lower or pyloric edge of the ulcer, while its upper edge was still practically free from carcinoma. Both the upper and the lower edge of the ulcer had been exposed to constant friction by the stomach contents, but this friction was of quite a different degree on both margins, as the food slipped easily over the smooth upper edge, while the undermined lower or pyloric edge was subject to much more friction by the food, that had to be forced out of the funnel of the ulcer, into the pylorus. After the observation stated, I saw six more such cases in rather quick succession, and then commenced to experiment, trying to produce gastric ulcers in animals and so create the same conditions favorable to the formation of gastric carcinoma, as they exist in the stomach of man, when ulcer is present.

I shall not go into detail about this, but simply refer to a publication of mine which appeared in the *Journal of the American Medical Association*, March 15, 1902. So far my results in following up this thought have been so encouraging, that my belief is stronger than ever, and I shall acquaint you here with a few of them.

It is well known how close a relationship exists, between epithelial metaplasia and carcinoma, and as in a series of experiments on ninety-four rabbits, I was able, to produce epithelial metaplasia in the stomach, three times, I wish to report those findings. A review of the cases of epithelial metaplasia as they have been observed in man, is very interesting and conclusions may be drawn from it by careful consideration of all details which have not so far found expression, but our time being limited, it shall only be mentioned in a cursory manner, that epithelial metaplasias have been observed in the nose and its accessory cavities, in the ear, in the adenoidal ring of the pharynx, in the larynx, trachea, bronchial tubes and lungs, in the gall bladder, in the urinary tract, the testicles and in the uterus. None have been described to occur in the gastrointestinal tract, except a physiological metaplasia with hornifications in low mammalia like *Echidna*, *Hobomatus*, *Manis* and *Bradypus*.

Number of animals operated on, 94; number of deaths, 91; number of deaths during 1st week after operation, 65; post mortems, 32; ulcers, 22.

I wish to report here four cases of metaplasia in the stomach, of which three observations were made in the course of the above mentioned series of experiments, while the fourth case comes from a former series of which the data are not at hand.

#### Case I.

White rabbit; sex, female; weight, three and one-half pounds; haemoglobin, 85; operation, January 8, 1904. January 23d, haemoglobin, 60%; weight, 2½ pounds. January 30th, haemoglobin, 50%; weight, 2¼ pounds. Loss of weight from January 8th, to January 30th, 1⅜ pounds, which is almost one-third of the animals weight. The rabbit died on February 1st, and it was found that the artificial defect had been covered again by mucous membrane, which was thickened and rather hardened in consistency, particularly in its middle portion. The microscopical examination showed considerable thickening of the mucous membrane in the central part of the healed defect, with complete regeneration of the same. Here, where macroscopically a small shallow slit could be seen, it was found to contain some vegetable fibers and on one side a strong peg of squamous epithelial cells was observed to originate from the epithelial apparatus of the mucous membrane from where it grew but little upward, just reaching the surface of the mucous membrane, while it had grown downward with great force, forming three side branches. The peg and its branches had not broken through the muscularis mucosae anywhere, but they had pushed this muscular sheet downward through the hypertrophic muscularis, almost reaching the serosa. A lumen could be seen in most parts of the peg, but its was of microscopical size and the arrangement of the squamous cells which formed the peg was so similar to the structure of the skin, that but slight differences existed. There were well formed papillae, a characteristic stratum Malpighii with considerable karyokinesis being noticeable in its basal layers,

a typical stratum granulosum, indications of a stratum lucidum and a perfect stratum corneum, that showed hornification in specimens stained with Gram's method.

A good deal of keratohyalin was present. In figure 1, which represents a microphotograph of the epithelial peg and its nearest surroundings, that is marked "Rad.," radix, root of the peg, it can plainly be seen, that the transformation of the cylindrical epithelial cells of the glands of the mucosa is in progress. This, I think is the part where the peg originated and the glands nearest to those in transformation, show plain signs of also becoming involved. Figure 2, demonstrates that the glands have become elongated and dilated and that their epithelial cells have become larger, higher, and their nuclei richer in chromatin, changes, which as will be seen from Figure 4, precede the final change from the cylindrical to squamous epithelium. This change occurs very suddenly, without an intermediate stage, the enlarged cylindrical cells forming the basal layer of the stratum malpighii from which then the other strata develop. It is to be remarked, that while there is considerable increase of chromatin in the cylindrical cells, it is only when the development of a stratum malpighii is inaugurated, that very numerous karyokineses appear.

After what has been said, it is at once clear that we have a genuine metaplasia, that cylindrical epithelial cells have been transformed into squamous cells, that a formation which is considered as a characteristic product of the ectoderm, has developed from parts of the entoderm, and that this metaplasia is due to mechanical causes, I have no doubt, as the part where it occurred was the only one prominent in the stomach and consequently exposed to friction. Friction alone cannot be the cause of metaplasia, but friction causing disorders of circulation and this plus continued friction is in my opinion the cause of those more deep-seated forms of epithelial metaplasia which are so prone to develop into carcinoma early or which probably are carcinoma from the very beginning.

If we review the cases of metaplasia re-

ported in literature our belief in mechanical causes is very much strengthened, and if we consider that in certain low mammalia who break up their hard food in the stomach, because they have no teeth or only rudimentary teeth, squamous epithelium and hornification are found in the stomach, down to the pylorus, then even the most skeptical must be convinced.

A superficial metaplasia is found in places and under conditions which almost preclude mechanical influences, I refer to such as occur in the nose, the frontal sinus, the antrum of Highmore and in the ear. Oedemas are supposed to give rise to such superficial metaplasias in the antrum and chronic inflammation has been stated to be a factor in the nose and ear. Metaplastic changes of epithelium also occur in the vicinity of tubercular ulcers. In some instances chemicals may cause such superficial metaplasias, for instance crude pyroligneous acid.

#### Case II.

Brown rabbit; female; weight and haemoglobin have not been recorded. Operated on January 1, 1904.

Jan. 23d, haemoglobin 45%, weight  $3\frac{1}{4}$  pounds.

Jan. 30th, haemoglobin 38%, weight  $3\frac{1}{8}$  pounds.

Feb. 6th, haemoglobin 45%, weight  $3\frac{1}{8}$  pounds.

Feb. 13th, haemoglobin 38%, weight  $3\frac{1}{8}$  pounds.

From January 23rd to February 13th the haemoglobin went down from 45% to 38% and  $\frac{1}{8}$  pound was lost in weight. The animal died February 19th, and as the weight had not been taken during the last six days before death occurred, no statement regarding any probable loss during that time can be made.

An infection of the right hand prevented me from making the post mortem examination myself and when I received the stomach I noticed a round mass on its outside, on the posterior wall near the greater curvature, which was 7 mm. long and 4 mm. in diameter. It had been severed from its continuation, the ending place of which is unknown, by a cut and its cross section showed,

that it was filled with a whitish mass. What there was left of it, was cut off closely to the stomach, in order to prepare cross sections for microscopical observation, but this piece was lost. Corresponding to the insertion of the round mass into the wall of the stomach, there was found in the mucosa thickening and hardening and microscopically another peg of squamous epithelial cells, which as figure 3 shows, had also grown downward, pushing the muscularis mucosa before it, clear through the muscularis and to the outside of the stomach, where the mass mentioned above was found. The structure of the skin was not nearly so well reproduced as in case I, but the formation of papillae and that of the stratum malpighii was plain enough (Fig. 3), to leave no doubt as to its real character.

Figure 4 gives full proof as to the true character of the metaplasia.

Case III is so much like Case I, that a description would mean a mere repetition of what has been said, and Case IV is identical with Case II. The results of my investigations allow the following conclusions:

(1) Epithelial metaplasia can be experimentally produced, by increased friction.

(2) It can be proven, that the metaplasias observed, did not originate from a germinal deposit as they were found in places where mucosa plus muscularis mucosae had been removed. If there had been a germinal deposit, it would also have been removed and the epithelial pegs could not have developed from a germinal deposit at the edge of the defect, as they were perfectly isolated and had no connection with other similar formations.

(3) The transformation was perfect.

(4) Figure 2, and particularly figure 5, leave no doubt as to a direct transformation of cylindrical epithelial cells to squamous cells, without an intermediary stage and the findings in Case II, as figure 4 represents, alone are sufficient proof of the genuine character of the metaplasia.

(5) As it is possible to exclude the origin from a germinal deposit, light is thrown on the cases reported in literature where

such an origin could not be positively excluded, and.

(6) We can now say, that a true metaplasia really exists.

(7) We may, so far, differentiate between three forms of epithelial metaplasia:

(a) Superficial metaplasia as we find it particularly in the nose and ear.

(b) Metaplasia with upward growth in the form of a condyloma acuminatum, as observed by Lubarsch in the gallbladder and by Pollak in the urethra.

(c) Metaplasia with an outspoken tendency to grow downward like carcinoma.

The first form may become malignant in the course of time, the second form, probably soon and the third form, which is represented by our cases reported, shows two principal characteristics of carcinoma, downward-growth into the deeper tissues, and practically unlimited proliferation of cells right from the start.

(d) The close relation of metaplasia to carcinoma, is clearly indicated by the casuistic material in the reports, found in literature.

(e) The fact, that we have experimentally produced skin from a mucous membrane of the stomach, a formation that is considered a characteristic product of the ectoderm, from the derivatives of the entoderm, makes it impossible to keep up the sharp differentiation of the three germinal layers.

Microphotographs showing the conditions described were demonstrated.

- 34 Washington st.

## CANCER OF THE UTERUS.

BY E. MAMMEN, M. D., BLOOMINGTON.

The types of malignant disease which afflict the corpus and cervix uteri are chiefly epithelioma, carcinoma sarcoma and adenocarcinoma, the latter very rare. In this community, including the city of Bloomington, and the County of McLean, there are on an average, annually forty-two deaths from malignant disease, of which sixteen and two-thirds per cent, or about seven *per annum*



are due to cancer of the uterus. The population of Illinois in round numbers is five million; this would make an average mortality throughout the state of about thirty-one hundred per annum from malignant disease, of which over four hundred and thirty-four are due to uterine cancer,—the average age being a little over forty-six years. The prevalence of cancer is not confined to particular localities, but exists with fair uniformity throughout the state. Actual figures obtained through the kindness of Dr. J. A. Egan, Secretary of the State Board of Health, show this estimate to be fairly correct, due allowance being made for some omissions in reports from rural districts. The actual figures hereto attached show a death rate of sixty-three per 100,000 of a population of 5,127,575.

to discover causes, but it will be possible to hint briefly at our knowledge of the subject as it stands today,—gathered from correspondence, literature, and as regards treatment, to some extent, from personal observation.

YEAR 1902.		DEATHS DUE TO CANCER.		UTERINE CARCINOMA.		Total 324.	
COLOR.		NATIVITY.		SOCIAL CONDITION.			
Fe.	Wh.	Col.	Ill.	U. S.	For.	N. S.	S. M.
324	317	7	66	122	122	14	15
							206
							95
							8

AGE.		OVER.		N. S.		2	
15-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
1	3	51	88	84	57	31	7
							0
							90
							2

YEAR 1903.		COLOR.		N. S.		UTER.	
Fe.	Wh.	Col.	Ill.	U. S.	For.	N. S.	S. M.
327	322	5	77	122	122	14	15
							206
							95
							8

AGE.		OVER.		N. S.		2	
15-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
2	8	35	97	94	40	50	50
							34
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YEAR 1903.		COLOR.		N. S.		UTER.	
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YEAR 1903.		COLOR.		N. S.		UTER.	
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It is reasonable to assume from these figures that at this time a thousand women,—mostly in the prime of existence and usefulness, are suffering from this loathsome disease, within the bounds of our state. Hence a study of this subject is well worthy our most serious consideration. We may not be able to enter the field of biologic research

It is of interest to note that certain tribes are exempt from the ravages of this disease. Some towns in Spain, the Suda district in the interior of Africa, the Canary Islanders, and some rude semi-civilized tribes are not afflicted. Carcinoma is virtually a disease of civilization and will some day be classed among those that are preventable, when once its pathology is clearly understood.

During the past two years careful studies have been made, both at home and abroad, along the line of chemical, bacteriologic, and biologic theories of causation. The first and second have been practically excluded, and it now remains to investigate further those biologic processes which seem to be influenced by organisms other than bacteria,—processes which some observers hold are caused by the presence of elementary types of protozoa, acting upon cell metabolism. Gaylord and Clark and Bell of New York agree that cer-

tain ameboid forms found in tuberculous growths on vegetables are identical in morphology, with other bodies of the same character found in cancer. The identity of these bodies in biological activity has not yet been proven, nor their continuity from the vegetable to the animal cell. Clows, (*Buffalo Medical Journal*, August, 1903) shows that there is nothing in this parasitic theory, that is incompatible with various toxic and chemical theories. The chemico-toxic constituents, peculiar to cancer, may well be the result of the presence and growth of some form of intracellular parasite. We have much evidence yet unpublished going to show the protozoan matter of the cancer parasite in which we fully believe, but I cannot as yet refer you to any of our own publications in which this is clearly set forth. Investigations in this borderland between the known and the unknown, seem to have frequently led the investigator so close to the truth that valuable discoveries cannot be far away.

The characteristics of uterine cancer, especially of cervical epithelioma and carcinoma admit of present and unmistakable diagnosis, even early, very early in the case. Ordinary erosions, ulcerations, especially when combined with lacerations, at once present suspicious appearances that call for exact inquiry and examination. A thickened neck, margin of os indurated, the surfaces around eroded, increased discharge, especially when malodorous, or hemorrhage, should lead at once to the use of the microscope. A slight curettement, the snipping off of a fragment, the preparation of a slide,—these are measures never to be neglected, when the question of cancer arises in the mind of the examiner. The aid of an expert pathologist can always be obtained,—for slide, or specimen in preserving fluid can readily be shipped. It may be urged that microscopical appearances alone cannot demonstrate these cases conclusively. The peculiar arrangement of the cells, their size, appearance, and contents, the breaking down of basement membrane, and other peculiarities, furnish excellent proof, that will hardly fail to make clear demonstration to the pathologist. When these indications are corroborated by

family and personal history as well as by macroscopical appearance, the diagnosis is clear. The earlier this diagnosis is made, the better for the patient. This will render the advice to be given clear, positive and unmistakable. By unanimity of counsel, should more be sought, the life of the patient may be prolonged for years,—though she herself will hardly realize the situation.

When the diagnosis is made easy by further developments,—all hope of prolonging life materially, must of course be abandoned.

The manner in which these cases are frequently handled is well illustrated by the following, which occurred under the observation of the writer.

Mrs. N.—was treated for several months by her family physician for "Ulcers of the womb." After a time she concluded that she was no better and asked for counsel. Consultation resulted in disagreement—the consultant immediately suspecting and indeed recognizing the malignant nature of the case. Hence a third physician was called,—a man whose opinion, considered from the standpoint of age, experience and personality, would carry much weight. After physical examination he decided that he could not tell whether the disease was malignant or not. A slide was prepared by a fourth physician, who had not seen the patient, and the appearance of the slide was typical of epithelioma, but the family physician and the second consultant were not familiar with microscopical appearances, and the council lacked unanimity. The family physician insisted that the disease was benign,—was in fact improving under treatment for ulceration. Much valuable time was lost. Finally the patient was taken to a neighboring city, where vaginal hysterectomy was performed and malignancy clearly demonstrated. Recurrence took place within a year and the patient died.

The general practitioner is under the necessity of constant vigilance. Even in an active practice in our state he will not see cases frequently,—each one, however, will teach the ever urgent lesson of early, very early diagnosis.

In considering the treatment of this dis-

ease the many sided views found expressed in current medical literature serve to demonstrate our impotence in accomplishing definite results by systematic or general remedies. Bell (*Medical Record* of 1903) advocates the use of thyroid extract, on the ground that toxins of cancer are affected by the secretions of the thyroid gland. Rogers (*Annals of Surgery* 1903) advises the use of increased carbo-hydrates as food, on the theory that cancer is due to enzymes assimilated from the blood and that more glycogen is necessary for the life and growth of the cells. Rost (*Indian Medical Gazette*, Calcutta, 1903) shows that benefit arises from administering a strictly diabetic diet, and adds to this two ounces of chloride of sodium daily, with local application of diluted hydrochloric acid. Malm (*Presse Medicale*, Paris 1903) found that hemorrhage and other symptoms may be checked in uterine cancer by a solution of adrenalin as strong as one to one thousand. Many remedies and methods of treatment have found advocates, after temporary trial, only to be discarded after more thorough and extended use. In fact when such remedies are considered we are probably no nearer the truth than were our fathers of the Seventeenth Century, when a combination of Cinnabar, Ashes of Old Burnt Shoes, Dragon's Blood, and White Arsenic, was believed to be, and recommended as an infallible cure. It is however safe to state as a general principle that tonic treatment, whether by means of food, fresh air and exercise, or drugs, in so far as it benefits the general health, will to that extent, and only to that extent, benefit those who are afflicted with uterine cancer. When cachexia has developed, when hemorrhages are frequent, when the cauliflower erosion has appeared, when the uterine glands, and other neighboring glands are involved, radical treatment need no longer be considered. Palliative treatment for such cases is alone indicated, and may be applied with the hope only of promoting comfort.

Interest in the subject of treatment centers at the present time in two methods supplemented by a third, based upon total extirpation of all affected portions. It is a safe

rule that in cervical epithelioma the rapidity of recurrence will be indicated measurably by the amount of vaginal wall involved. The best results are to be expected when the disease has not extended beyond the cervico-vaginal line. Landau operates with the full expectation of non-recurrence for many years, when this is done before the passing of the line of this junction. These are cases for vaginal hysterectomy. Whenever the glands of the broad ligaments and other pelvic tissues are invaded, or where there is an enlarged corpus, or narrow and high vagina,—abdominal hysterectomy is the operation of choice. Either operation is to be followed by the persistent use of the X-Ray. Weber (*New York Medical Journal* 1903) advises early removal, and the use of the X-Ray after each operation. Leonard (*American Medicine* November 1903) follows the same plan. Clarence E. Skinner of New Haven believes that every operation should be followed by the use of the X-Ray. Edwards (*Journal of Surgery*, Oct. 1903) advises the use of the X-Ray when employed by wise and competent hands. They are capable of much mischief when improperly used. In fact the consensus of opinion of prominent operators and writers for the year 1903 is all to the effect that extirpation should be done early and be followed by the persistent use of the X-Ray. As yet radium, though of easier application, has not fully entered the field. Its activity has not met expectation and its use is still in the experimental stage. Numerous favorable reports on the X-Ray however abound. Application to the pelvic organs can be made by means of specially constructed tubes through the vagina. (Tube exhibited.) This agent has been in the field only a very short time and the question of recurrence after its use cannot be settled for a time. But its effect on superficial malignant disease, and the marked benefits derived in the hands of a large majority of observers, make it at this time an essential factor in radical treatment.

Gelhorn (*American Gynaecology*, 1902) shows that in only about one-third of all cases of uterine cancer as they first come under observation are the regional glands



of the pelvis involved, and that such involvement does not occur in the incipient stage of the disease. Such cases are proper always for hysterectomy by the vaginal route, provided there is sufficient room to admit of thorough removal. This is the operation of choice in all early cases. During 1903 there was much discussion as to the relative merits of the two routes. In either case, all involved glands and other tissue must be removed, or recurrence will take place early. The Vaginal operation can be performed, on an average in twenty-five to forty minutes, there is little danger of infection, but slight shock or none. Recovery takes place rapidly. The patient often is scarcely aware of the gravity and importance of the operation performed and she at once rebounds into good health and spirits. In this the ureters should not be injured. When the disease has closed in around these, then adjacent tissues are also involved so as to call for the more radical abdominal operation, and the prognosis is much more grave.

With the co-operation of general practitioners in every precinct, town and village, could not this stage of uterine cancer be forestalled in the majority of instances? Our teaching should change from the doctrine of incurability to that of curability in the vast majority of cases, by total extirpation, and radio-therapy early,—very early.

In my own practice for the last ten years the principles here laid down were followed. There were eleven operations *per vaginam* and two by the abdominal route. Operation was refused nine times in cases that were too far advanced, and three times curettement was resorted to as a palliative measure, with such other treatment as relieved pain and hemorrhage.

In a community the size of this, it is believed that late operation with its doubtful results only serves to bring its performance into disrepute,—while refusal and clear teaching that these cases can be cured early result ultimately in the saving of life. Of the eleven cases operated on *per vaginam* three are of more than seven years standing, four of more than four years, and four of more recent date; no recurrences have ap-

peared. While this is not of sufficient duration to make a strong test, the argument presented is of value. The two operations by the abdominal route have as yet no appearance of recurrence, but sufficient time has not elapsed. It is believed that in those cases where operation was refused, life continued for a longer period than had operation been resorted to.

Statistics of large numbers of cases are furnished by our great hospitals in medical centers. These teach the same lessons and show further that the surgeon's advice is in a large per cent of cases sought too late, so again the conclusion that to get the best results, a diagnosis must be made early, very early, and operation promptly performed.

Abdominal hysterectomy when resorted to should be most thorough in character. Not alone the removal of the uterus and its adnexa but such parts of the vagina and broad ligaments as may be involved, with all pelvic glands. Many of these lie in close proximity to the ureters, which may be accidentally injured or require resection.

Wertheim of Germany as well as careful operators in our own state have done much to bring out the more extensive procedure. Sampson of John's Hopkins finds that the performance of this thorough operation including resection and implantation of ureters will take from two to three hours, even by expert operators; the uretero-vesical implantation taking only ten minutes. He advises resection and implantation of ureters rather than stripping them, which cuts off their blood supply and leads to the liability of uretero-vaginal fistula. The operation should be performed as follows, according to Sampson:

"Preliminary catheterization of the ureters may be done when possible with silk bougies, before the patient takes the anesthetic.

"A row of interlocking catgut sutures is now placed around the vagina, below the growth. These sutures are passed with a large curved needle, includ large masses of tissue, and extend laterally as far as the needle will permit, while a finger in the rectum prevents their being passed too deep

posteriorly. After all these sutures have been passed they are tied. This procedure is for the purpose of occluding the large vaginal and paravaginal veins which sometimes give rise to troublesome venous hemorrhage.

"A catheter is now placed in the bladder and retained so that it may be filled with sterile water. This will aid in preventing injury and in implantation of ureters, should this be required.

"The patient is now placed in the Trendelenberg position and the abdomen is opened in the median line. After packing back the intestines with gauze, the ovary of the side on which the ureter is to be resected is grasped and pulled downwards and outwards, thus making taut the ovarian vessels and peritoneum covering the iliac vessels. The peritoneum is now split below and parallel to the ovarian vessels as high up as the origin of the internal iliac artery. The ureter can be seen in a thin patient lying in the lower peritoneal flap, and its blood supply is not interfered with. Dissection should be downward, removing the fat and lymphatic structures, including glands from along the iliac vessels, thus exposing the branches and removing the tissue *en masse*. By using a blunt dissector hemorrhage may be avoided.

"After exposing the vessels in this manner down to the uterine artery, the ovarian vessels and round ligaments are cut. The uterine artery is tied twice at its origin, taking care to include in the ligature the vaginal artery, but not the superior vesical artery, and cut between the two ties.

The other side is treated in a similar manner, if both ureters are to be removed; if not, the uterine vessels are tied and cut at their origin, and then lifted up and dissected away from the ureter, taking care not to injure its outer vascular coat.

The uterus is now pulled upwards towards the umbilicus and the bladder is dissected free from the cervix. The dissection is carried on down to the ureters and if thought best one or both are cut off close to the bladder.

If the lower end of the ureter is to be sacrificed, it should be amputated just above

the place where the uterine artery crosses it, and all the tissue lateral to the cervix including the lower portion of the excised ureter, may be dissected from the pelvic wall.

The utero-sacral ligaments are next cut and the rectum is dissected from the cervix and vagina.

The dissection is now carried on around the growth on all sides and down the vagina to the preliminary catgut ligatures.

Then follows the uretero-vesical implantation.

The table is placed in the horizontal position.

The ureter is split laterally for a distance of seven or eight mm., so as to form a dorsal and ventral flap. A silk suture with a needle at both ends is passed through each flap from side to side just beneath the ureteral mucosa. The bladder has been filled with sterile water. Choose a place in the bladder with a good blood supply, make two parallel horizontal incisions, the width of the ureter apart and as wide as the same and connect these two by a transverse incision. This gives an Z incision, and on spreading the flaps apart forms a square hole in the bladder with two lateral flaps. The needles are next passed through this hole and through the bladder wall from within out, those from the dorsal flap coming out below the opening about 5 mm., from the edge and the width of the ureter apart, and those from the ventral flap coming out at corresponding places above the opening. The ureter is now drawn into the bladder by the sutures and they are tied. The lateral bladder flaps are now sewed to the side of the ureter with fine silk sutures which pass through ureteral and bladder wall down to the mucosa and close carefully.

In this operation all precautions must be taken to counteract shock, but when successful recurrence may be slow. When we reflect however that this procedure even in the hands of expert operators requires from two and a half to three hours for its performance, —then again we are impressed with the force of the argument for early, very early diagnosis and operation.

## THE GEOGRAPHICAL DISTRIBUTION AND THE MEDICAL TREAT- MENT OF CANCER.\*

BY W. C. BOWERS, M. D., DECATUR.

There doesn't seem to be a common understanding among physicians and surgeons as to the scope and limitations of the term, Cancer.

Lovell Drage<sup>1</sup> says, "Cancer is a very wide term, embracing a very large number of pathological growths."

Henry Morris<sup>1</sup> in his Bradshaw lecture in 1903, commenced by saying: "I have chosen Cancer, meaning thereby both Carcinoma and Sarcoma as the subject of this lecture."

In this paper the meaning is according to the most popular German definition—"every kind of malignant tumor not connected with an infectious disease."

If the cell theory of Cancer is correct, it seems strange that it is found in great frequency in one country, and not at all in another, although people of a Cancer age are found in both countries.

Cancer<sup>2</sup> is met with extensively in the United States, particularly in the larger towns; in Australia, where it, with Phthisis and Enteritis causes the majority of deaths, in Middle and Southern Europe, Japan, China, and Farther India.

It is moderately frequent in Algiers, Madeira, Ecuador, Peru, Mexico, and Pueblo; but more rare in Arabia, Syria, Persia, Canada, Southern California, Guiana, and Spain; and very rare in Greenland, the Faroe Islands, Northern Europe, Greece, Turkey, India, Abyssinia, Tunis, Egypt, South Africa, in Tropical and Subtropical Districts, and in the West Indies.

It is unknown in Northern Asia, The Canary Islands, The Ceuta District in Africa and in many large towns in Spain.

In the past few years much has been said, both in the Medical Journals and in the newspapers, about the great increase in Cancer.

For a long time Massachusetts bore the

brunt of the accusation, probably because her statistics were more carefully arranged, covering a longer period of time than those of most any other state or country.

In the Shattuck lecture<sup>5</sup> before the Massachusetts Medical Society, in June, 1901, the following conclusions were arrived at: "If death from Cancer should go on at the present apparent rate of increase of the past fifty years, in two and a quarter centuries every person over thirty years of age would die of that disease; but the assumed increase is probably due to better diagnosis and registration; and until the ratio of all of the deaths from Cancer, over thirty years to the total mortality of the same age has reached 8 or 9%, which is shown by autopsies to be the true rate for Cancer, it is not justifiable to speak of the increase as inherent in the disease itself.

Ninety-six per cent of deaths<sup>5</sup> from Cancer occur in persons over thirty years of age.

Many states have well-kept statistics, but covering only two or three years generally, which is too short a time from which to draw conclusions.

Dr. N. K. Foster, Secretary of the California State Board of Health, writes me that in his state there were, from Cancer, 319 deaths in 1899, and 295 in 1900, in a population of 600,000. In 1901, there were 467 deaths from Cancer, in a population of 700,000.

In the United States Census for 1900 the following statement occurs: "In comparison with 1890 there was a decided increase in the death rate due to Cancer and Tumor, from 15% in the cities, to 27% in the rural districts."

Harris Moak<sup>4</sup> has made a careful study of this report, and has determined a proportionate apparent increase in several other diseases. The per centage of increase is:

For diseases of the kidneys.....	40%
Of influenza .....	28.5%
For apoplexy .....	36%
For heart disease.....	10%
For old age.....	20%
For cancer and tumor.....	23%

He concludes that "1st, cancer and tumor have not increased in any greater proportion

\*Read at the 54th Annual Meeting. May 17, 1904.



than have several other diseases common to adult life and old age." "2d, the geographical distribution of cancer and tumor corresponds almost exactly to the geographical distribution of people of greatest age." Cancer and tumor are therefore most frequent in the sections where old people are most numerous.<sup>11</sup>

In a study of five large cities in Europe, it was found that uterine and mammary cancer have declined, that cancer of the rectum is at least stationary, that cancer of the mouth and its annexes are perhaps increasing, but that the total registered increase of cancer is above all due to the registered increase of death from visceral cancer.<sup>11</sup>

Illinois statistics for 1902 show—

1027 deaths from gastric cancer,  
324 deaths from uterine cancer,  
234 deaths from intestinal cancer,  
186 deaths from breast cancer,  
765 deaths from other forms of cancer.

1055 were males, 1487 females, 115 were under 30 years of age and 1139 were foreign born.

For 1903, 1129 deaths were from gastric cancer,

327 deaths were from uterine cancer,  
256 deaths were from intestinal cancer,  
181 deaths were from breast cancer,

778 deaths were from other forms of cancer.

1178 were males, 1493 were females, 99 only were under 30 years of age, and 1319 foreign born.

As to the increase of Cancer, it may be that "the alarm is out of proportion to the increase" but the disease is so loathsome and terrible in its ravages, destroys such a great number of people, and an early diagnosis is so valuable that he who discovers anything aiding in the least an early diagnosis confers a blessing on mankind.

In speaking of the treatment of Cancer, one may divide the cases for convenience into curable and incurable as far as medicine is concerned; and into operable and inoperable as far as surgery is concerned.

The curable are to be treated by excision,

applications, injections, or by internal medication.

Since 75%<sup>15</sup> of all cases coming to the surgeon are inoperable, strenuous efforts are being put forth to find something to benefit or cure these cases.

For many years morphine was about the only remedy thought of in what is known as incurable cases.

Cocaine, twenty years ago became widely known as a comforting agent in some cases through its use on the throat of General Grant.

In some instances today as much of a cancer is cut away as possible, and the remainder treated by caustics or X-Ray.

It is probable that but few cases are as yet cured by medical means when it has passed deeper than the skin, and Skin Cancer takes up only about 16% of all Cancers.

Nearly all forms of superficial Cancer, suspicious-looking moles, warts, or similar lumps can be better treated by the so-called Cancer pastes than by the knife.

There are several caustic remedies used in the treatment of Cancer that are curative or beneficial when properly used. They are arsenic, caustic potash, zinc chloride, pyrogallol, acid nitrate of mercury, thermo and electro-cautery and the X-Ray or similar treatment.

These are all especially useful in the superficial Cancers, and arsenic is the most important among the purely medicinal substances.

Arsenic, as commonly used in Marsden's or other similar pastes, should not be applied over more than a square inch.

Marsden's paste as recently modified is

Arsenious acid,  
Pulv. Acaciae equal parts,  
Cocaine 10%,  
Aquae q. s. to make a soft paste.

Apply on rubber plaster to the ulcer, then a compress and gutta percha tissue. Or, if the skin is unbroken, remove the epidermis with a 5 to 10% caustic potash solution, applied for several minutes.

Renew the paste every 24 hours, covering two or three days usually, then poultice until

the slough separates, and treat the remaining simple ulcer with Carbulated salve. Repeat the operation at any time some Cancer tissue seems to have remained.

For very superficial cases use a smaller proportion of arsenic, and for deeper cases a larger proportion may be used.

The caustic potash should be used in stick form<sup>11</sup> on small or beginning skin Cancers; and one thorough application of a few minutes is usually sufficient when the action should be stopped by the use of vinegar, and sometimes a poultice applied.

A 30% solution of acid nitrate of mercury may be applied for from 5 to 30 minutes after curetting some Cancers, and will finish a cure in many such cases.

Pyrogallol and arsenic have an elective action for the pathological tissue, while the other medicinal caustics mentioned destroy any tissue.

Pyrogallol is painless and nondepressing though somewhat feeble in action, and is useful in superficial large surfaces especially in the old or feeble patients.

It is applied in an ointment of 25 to 33 $\frac{1}{3}$ % strength with vaseline and simple cerate, for ten days to three weeks with intervals of poulticing and the picking off of sloughs.

Zinc chloride is effective but very destructive and mummifies the tissues.

It is often used in the strength of one part chloride of zinc to three parts of flour, using a saturated solution of hydrochlorate of cocaine to mix it with.

Probably Bougards<sup>11</sup> paste is the best known formula. It consists of—

Wheat flour and starch.....	4 drachms.
Arsenious acid.....	4 grains.
Cinnabar and ammonium muri-	
ate, of each.....	20 grains.
Corrosive sublimate.....	2 grains.
Chloride of zinc crystals.....	4 drachms.
Boiling water.....	6 drachms.

The first six are well mixed, and the chloride of zinc added dissolved in water. From five to 20% cocaine may be added as the application is very painful.

If the skin is intact, it may be macerated with the caustic potash solution, or as I have

done a few times, scarify the surface slightly with a sharp knife before applying the paste.

Arsenic as a rule should not be applied over more than a square inch of skin. (Marsden.)

On surfaces three or four inches square, arsenic may be applied safely in strength recommended by Hebra.

<sup>11</sup> Arsenic .....	1 part.
Cinnabar .....	3 parts.
Unguentum aquae rosae.....	24 parts.
Cocaine .....	10%

This should be applied on a fresh plaster daily until considerable inflammation is aroused and a slough shows itself, then poultice this out, and reapply the paste if any disease remains.

Calcium carbide placed in the uterus after thorough curetting was originally used by Etheridge<sup>14</sup> in inoperable cases and seems to have done well in his hands.

A 30 to 40% chloride of zinc solution is more popular treatment, and seems to have cured a number of cases.<sup>15</sup>

Stelwagon<sup>11</sup> recommends on large surfaces that the cancer paste be applied in center over a square inch, and the chloride of zinc paste surrounding it covering the balance of the surface.

Injections of caustic or allied substances are being tried by many workers in this field, are considered dangerous and are used only in the deep inoperable cancers.

Those most used are alcohol after the method of Hasse; boiling water, especially in sarcomata after the method of Wyeth; acetic acid, one to seven in water, as recommended and used by Broadbent and quite recently by Cooper<sup>12</sup> are at present the most used remedies in this manner.

In cases inoperable or incurable, there have been a number of remedies used, principally internally with reported benefit.

Two cases<sup>18</sup> of carcinomata of the stomach showed cessation of pain, increase in weight and disappearance of the cachexia, under the use of one minim up to five minim doses of a one per cent solution of the chloride of platinum.

Several years ago condurango bark<sup>19</sup> had some reputation. Sixty-four cases of "un-

doubted cancer of the stomach" were treated by giving ten grammes of the bark daily for months, in which the "visible tumor diminished in size in seventeen cases, and disappeared altogether in eight cases."

*Chelodonium majus*,<sup>12</sup> a plant with narcotic properties allied to opium, has recently been studied principally by Russian physicians. It is said to enjoy a great reputation in the East Indies.

It is used by giving a half-grain of the extract, increased to five grains daily in peppermint water, and a solution of the extract applied. Or, a solution of equal parts of chelodone, glycerine and water may be injected into the substance of the tumor. Several<sup>20</sup> external cancers are reported cured, and others both external and of the alimentary tract greatly ameliorated.<sup>20</sup>

Dr. C. C. Hunt of Dixon, Ill., apparently cured a case of medullary carcinoma of the shoulder region by using injections of the fluid extract of *chelidonium majus*, full strength directly into the tumor.

He also applied it to the ulcer and gave it internally. The severe reaction usually reported does not seem to have appeared after his injections.

As to tuberculin, McCasky<sup>22</sup> says, "In view of the occasional retrogression of cancer after the use of tuberculin, it may sometime be worth while to try a systematic injection into cancerous tissue."

Adrenalin in ten per cent solution has been used on malignant ulcers, and some experimenters are hopeful that it will retard the growth of the tumor.

An attempt is being made to produce a useful cancer serum, but as yet no one has quite succeeded.

Cancroin<sup>23</sup> is a toxin isolated from cancer juice by Adamkiewicz. He reports four cases of cancer of the esophagus, and several of other parts of the body cured by this remedy. Kugel reports a case of breast cancer cured by it.

Coley's Fluid made of the toxins of *erysipelas* and *bacillus prodigiosus* and injected, causing a severe reaction, is most beneficial in the spindle celled variety.

A shield<sup>24</sup> has been made to fit the breast in such a way that the air under it can be exhausted, thereby making suction, and preventing the absorption of septic products.

G. B. Massey reports several cases of superficial cancer cured by electro mercuric treatment. Its benefit in inoperable cancer is probably not so certain.

He certainly reports a sufficient number of cases well after three years to establish the remedy on a fair footing.

Cinnamic acid is one of the late remedies which is thought to promise benefit.

"To sum up;<sup>1</sup> the condition which it is designated to produce is, first a leucocytosis and second a fibrosis in the tissues affected by cancer. In the case of pulmonary tuberculosis there is no difficulty in producing these conditions. In that of cancer much greater difficulty is experienced in advanced cases than in tuberculosis. However, it is claimed that the treatment is soundly based, and that although it is quite likely that the best possible means of initiating the changes desired has not yet been found, it is only a matter of time for improvement in the details of treatment to be effected. It is used by injection and causes a severe reaction.

A method known as ignipuncture, in which fine needles of a Paquelin or Galvanocautery are thrust into the tumor and deeply around it, is reported to have cured quite a number of cases of cancer of the skin and mucus membranes. The wound is also dressed with a solution of copper.

Captain Rost, of India, reports a case of cancer cured by the internal use of salt. He found saccharomycetes in both carcinomata and sarcomata, and that they could only develop when the natural chlorin of the tissues was deficient. He aims to supply it by giving large quantities of salt.

Braithwait puts excess of salt as a cause of cancer; and the Cancer Committee of Harvard had decided that "the so-called blastomycetes (saccharomycetes) produce<sup>21</sup> essentially nodules of peculiar granulation tissue, which are not cancerous nor in any sense true tumors."

However much or little may be said in favor of these remedies that I have men-



tioned for incurable or inoperable cancers, morphine, last but not least, remains the solace of the doomed.

In incurable cases its use should be commenced as soon as pain calls for relief.

Also "apart from the narcotic effect of the drug it also appears to have some inhibitory influence on the growth, and Professor Osler has reported two hopeless cases of recurrent carcinoma of the breast in which morphia was freely given, and to the surprise of the physician both cases were seen many months afterwards in good health, and with great diminution in the size of the tumors. These results are at any rate as good as those obtained by some of the other methods of treatment."

To sum up,—

1. Give prompt treatment of all superficial cancers or suspicious looking spots with cancer paste or similar remedy or by the X-Ray.

2. The inoperables should be offered the treatment seemingly best established for the particular case and not abandoned.

3. In all cases that are not benefited by well or partially established methods of treatment or if pain demands it, morphine should be used with a free hand, with the expectation of relieving pain, and in some instances checking the growth.

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### THE ULTIMATE RESULTS OF OPERATION FOR CARCINOMA OF THE BREAST.\*

BY D. W. GRAHAM, M. D., CHICAGO.

If we exclude the skin the mammary gland affords the best opportunity of all the organs and tissues of the body for testing and judging the value of the surgical treatment of carcinoma. Its accessibility allows of an early reading of the signs of disease both by the patient and the physician and a timely diagnosis is therefore comparatively easy. Its anatomical relations also are such as to permit a wide removal of suspected tissues with little sacrifice to the patient in the way of disfigurement or function. As to frequency of involvement it stands third on the list when compared with other organs and tissues. The proposition that carcinoma is at first a local disease is almost universally accepted and on this are based all the hopes and efforts for a permanent cure by operation.

The ultimate results of operation for carcinoma of the breast are influenced in some degree by minor factors such as the age and other conditions of the patient, the part of the gland affected, and the histological character of the tumor itself. But for practical purposes these results may be considered as depending chiefly on the extent of the disease at the time of the operation and on the thoroughness of the operation.

First, the extent of the disease.

Involvement of the axillary and intervening lymphatics begins very early and no doubt in many cases before the primary focus

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in the breast is recognized. Indeed, it occasionally happens that they are found palpable under the skin at this early stage and thus furnish the first indication of the presence of the disease. Dennis in his text book on surgery teaches that "in all probability within six months from the date of the first appearance of the induration in the breast the axillary glands are not infected," though he admits the possibility of earlier infection. This is not a safe opinion for any teacher to put forth. And he takes no account of the months of time the disease is developing before the induration can certainly be made out. The evidence obtained in the experience of every surgeon from operations made before the lapse of six months "from the first appearance of the induration" proves the contrary.

However early the operation, lymph gland infection is found almost without exception and which it requires no microscope to detect. Kuesters experience may be quoted in this connection. In 117 operations for carcinoma of the breast in which the axillary glands were removed and subjected to thorough microscopical examination, these were shown to be infected with carcinoma in all but two. No doubt a considerable number of these cases were operated upon before the lapse of six months from the time of the first appearance of the induration. There comes a time sooner or later when the disease extends by these channels beyond the limits where it is anatomically possible to remove it.

The lymphatics of the skin may also become involved at an early stage though this usually is a later development than that of the subcutaneous lymphatic system. The evidence of this mode of extension of the disease is the appearance of small lenticular nodules in the skin, which when present in considerable numbers, or when scattered widely, may contraindicate an operation. But when these skin nodules first appear after an operation has been made they indicate a hitherto unsuspected extent of carcinomatous invasion and one that affects the prognosis unfavorably. Moreover, metastases

in the bones or viscera may take place early in the course of the disease and remain unsuspected at the time of the operation. It needs hardly to be said that an operation would scarcely even retard the final result under such conditions. It follows therefore, that if we could determine the limits of the disease beforehand the number of cases subjected to operation would be diminished rather than increased, but our operative statistics would be correspondingly improved. Fortunately there is a more hopeful way of improving our statistics than by seeking for this power of discrimination. And this way lies in the effort to limit the disease to its original focus, as near as may be, by early recognition and early removal. For surely there is a period, theoretical it may be granted, when carcinoma is so limited if the prevailing conceptions of the disease are correct. Then to recognize the disease at the earliest possible period so that the practical and the theoretical will more nearly coincide is our imperative duty. But early diagnosis is beset with difficulties. In the first place the opportunity is wanting. And therein we may preach to the public about its duty to consult the physician early and often when there is suspicion of trouble. But this will avail little while human nature is what it is, and it is now not greatly different from what it always has been and always will be. Our preachments affect the few and are of no effect on the many. After all, the chief responsibility for an early diagnosis lies with the physician. It is not necessary here to recite the ordinary signs and symptoms of carcinoma of the breast. These are fully given in all modern text books.

But it will be helpful to recall that of all tumors of the breast over 80 per cent are malignant and of all those in patients over 40 years of age, 85-90% will be carcinoma. And when it is recalled that the attitude of surgery today, based on sound pathology and clinical experience, is that all new growths of the breast, of whatever nature, should be removed it ought not to be difficult for anyone to make a working diagnosis comparatively early. When it comes

to advising an early operation there is encountered a widespread prejudice against any operation for carcinoma. This prejudice is shared by a considerable part of the medical profession and has for its basis the teaching that prevailed in some quarters up to 25 and even 30 years ago. It must be confessed that there was some justification for that attitude at that time, for incomplete operations were the rule and palliation the object.

Moreover the operation encounters a prejudice both within and without the profession because of its supposed gravity. This is due to the influence of statistics based on pre-antiseptic surgery. As an example, Billroth, in 1878 published 170 operations with a mortality of 23.7%. Whereas the methods now in vogue in the hands of experienced men with properly selected cases, render the operation of amputation of the breast practically free from danger except that incident to every operation. A surgeon of today with half the mortality rate of Billroth would be chargeable with malpractice, and this in spite of the fact that the modern operation is extensive and tedious as compared with former methods. The prejudices and erroneous views along these and similar lines, together with the indifference to responsibility on the part of many in the profession militate against early operations for carcinoma. The conception of the patient is that an operation should be a measure of last resort and that a last resort operation will accomplish all the purposes of an early one. And from the attending physician too often we get a message which runs something like this: "Mrs. X. has a tumor of the breast which she consulted me about some six months ago. I then advised her to let it alone until it began to trouble her. It seems to be growing and I have advised its removal." It should be evident to every one then that if we would improve our ultimate results from this operation it ought to be performed at a time when it is possible to remove all the disease, if not always, yet with greater frequency.

The other factor which has an important bearing on the results of this operation is the extent and thoroughness of the operation itself. The older surgeons were satisfied with

removing the primary focus of the disease, almost wholly ignoring the invasions of the neighboring structures.

One of the first efforts to impress upon surgeons the importance of endeavoring to get beyond the limits of the disease was made by Moore of London in 1867. Since that time Banks of Liverpool, Volkman and Heidenhain of Germany, Gross the younger and Halstead of this country, besides many others, have been conspicuous advocates of a more thorough operation. But the evolution in this direction was slow and halting until the improvements in general surgical technique, especially against hemorrhage and sepsis, has allowed the operation to be pushed to about the furthest possible anatomical limits. This, often called the complete operation, consists, first, in removal of the skin wide of the suspected limit of its infection, regardless of the size of the open wound that may be left. Second, extirpation of all the lymph bearing subcutaneous fatty, areolar tissues, from the sternum on one side to the anterior border of the latissimus dorsi and subscapular muscles on the other, up through the axilla to its very apex including the infraclavicular glands; third, all the great pectoral muscles except its clavical portion and sometimes also the pectoralis minor, including all the fascia, areolar and adipose tissues about and belonging to these muscles. Fourth, cleaning off the fat and areolar tissue from the large vessels including the subclavian and axillary divisions. Fifth, dissecting out the supraclavicular glands from the posterior cervical triangle. This last part of the operation is not practiced by many and not always by Halstead who first advocated it.

Objections have been urged against this so-called complete operation as a routine procedure. But the objections are trivial in comparison with the arguments in favor of it, especially when it is shown that the mortality from the operation *per se* is practically nil, and no greater than attends a less extensive one. The great argument in favor of it as a routine practice, is that the percentage of ultimate cures is increased and that it ranks higher as a life saving operation.



The above considerations are intended to show the way along which we should work for future improvement in the ultimate results of operation for carcinoma of the breast. The summing up of the whole matter is early recognition of the disease, early operation and thorough removal.

As to what is meant by "ultimate results" Volkmans well known statement has been generally accepted but with some modification. He says "when a whole year has passed and a most careful examination can detect neither local recurrence nor swollen glands nor any symptoms of internal disease we may begin to hope that a permanent cure may be effected; but after two years usually, and after three years almost without exception, one may feel sure of the result." This is a very useful basis from which to reckon in making up our statistics of the results of the operation but all know that we cannot count a patient permanently cured even when there is no recurrence at the end of three years. Indeed there is no time while the patient is living when we may say positively that there will be no recurrence. So while we may properly speak of the three years limit in our statistics and estimates of our results there is no justification for using the term "permanent cure" in this connection.

And finally as to what the ultimate results actually are up to the present time the story may be briefly told. Figures and percentages when applied to such questions are always unsatisfactory and sometimes aggravating and yet they are necessary. With the complete operation in the hands of experienced operators recent statistics show the percentages of those having passed the three years limit without recurrence to range from 26, 28, 35, 45 to 57, making an average of about 40 per cent. In contrast with the older statistics this is truly favorable and encouraging.

**Discussion on the Papers of Drs. Futterer, Murphy, Mammen, Bowers and Graham.**

**Dr. Arthur Dean Bevan, of Chicago.**—Mr. President: I would like to congratulate Dr. Futterer upon the very excellent piece of scientific work which he has done and com-

municated to the Society this afternoon; also on the fact that he has been able apparently to produce artificially in rabbits stomach ulcers followed by carcinoma. Of course, there is this to be said about the demonstration, that it is not as yet complete. Histologically, it is very suggestive, that following irritation of the artificial ulcer there has been produced a growth of squamous cells which infiltrate the underlying tissue, which would seem to point very strongly toward the fact that he has succeeded in producing essentially the beginnings of carcinoma. There remains this one demonstration to be made, and that is, the production of such a lesion, followed by metastasis, which would, of course, clinch the entire demonstration. Personally, I am exceedingly interested in the point, because recently I had under my observation a case of squamous-celled carcinoma of the gall-bladder in a case where the conditions simulated very much those conditions produced artificially in these experiments. The patient had gall-stones for some time, then evidence of suppuration, and I operated and found empyema of the gall-bladder, gall-stones, and what I regarded at first as granulation tissue. Fortunately, for scientific purposes we removed some of the granulation tissue and to our surprise we found that it was composed of squamous cells carcinoma and adeno-carcinoma. We found the cells of two different carcinomas side by side, with apparently a sharp line of demarkation, and no amount of transition.

As far as the other papers are concerned, I think that the symposium proves to us that the carcinoma problem is still one of the most difficult which we have to meet; that, as yet, there is but little light on the subject. There seems to be this tendency, as shown by recent numerous observations of the carcinoma problem, to diminish the importance of a possible mitotic cause of carcinoma. I am rather inclined to the belief, as shown by a recent discussion in Great Britain, and well summed up in a paper by Henry Morris, that we are beginning to look upon carcinoma as a lesion in which the epithelial cells become a parasite; that as yet we have no idea of the limited cause which determines this parasitic condition, but that there does not seem to be any great probability that these mitotic changes are of germ origin.

With reference to treatment, I was interested in what was said regarding the X-ray, and early operation. I am not satisfied that the X-ray is an important factor in the treatment of carcinoma. I am in a position to say that its limitations are very marked, and that its value is very small. I think its value is in proportion to the size and depth of the carcinoma. I am in sympathy with the proposition of using the X-ray in superficial epithelioma, and as a post-operative means in carcinoma where the original focus is not deeply situated. I cannot say that I am at all convinced that as yet, even as a post-operative measure, the X-ray is of any value in the treatment after extirpation of deep-seated carcinoma, such as that which involves the

uterus or stomach. In our work at the Presbyterian Hospital in Chicago we feel that as yet we have no evidence whatever to show that the X-ray has influenced beneficially any deep-seated carcinoma. That it has been of great value in superficial epithelioma, has been proven beyond peradventure. It is of distinct value in cases of superficial carcinoma of the breast, as a post-operative treatment, where we use the agent pretty thoroughly and directly in the region of the original focus. I think that point has been thoroughly demonstrated.

**Dr. Fenton B. Turck, of Chicago.**—I think the work that has been presented today by Dr. Futterer, and particularly the paper which I had the pleasure of listening to by him in Chicago, with the evidence furnished, is extremely valuable. Metaplasia occurring in the stomach, in an attempt at healing following trauma, is a very important advance. In the cases in which Futterer had positive results, no true ulcer had formed; mucous membrane had grown over the trauma and repair was apparently complete. In order to produce metaplasia it is necessary to alter the condition of the blood. Whether there is some other condition besides that of producing a loss of hemoglobin or changes in the serum, has yet to be considered as factors in this metaplasia. We know that if we produce any trauma in the stomach, healing will invariably occur without any apparent scar, unless the traumatized area is extensive. It is difficult to find any evidence of that trauma, even though we take a large or extensive area from the folds of the stomach, but where there have been changes produced in the blood, it has been found that we are able to produce a retardation in the restoration of the tissues after trauma. It is in regard to this point that we should consider these important changes that take place. It is in the process of healing that this seems to occur, and there is something that interferes with that healing which is necessary to produce artificially carcinoma by means of pyroligneous acid and other substances injected into the blood. The essential is not the trauma, a simple injury to the mucosa. If we are to look to the etiology simply as an injury, we should expect carcinoma to develop in patients who swallow jack-knives, nails, and innumerable things, which are taken into the stomach without any apparent lesion being produced by them. There has been no ulcer produced by simply swallowing these various bodies, so far as I know. Glass-eaters swallow glass, and yet no ulcer of the stomach has developed ending in carcinoma. We must conclude that an important point lies in the study of the changes that occur in the serum or in the blood. Some work must be accomplished in order to determine the direct relation concerned in the healing process of a gastric ulcer, and the changes that occur in the serum.

The Society is to be congratulated on having had this splendid work presented before it.

**Dr. J. F. Percy, of Galesburg:** I have been greatly interested in this paper of Dr. Futter-

er's. I am afraid that we do not realize enough the immense amount of exacting work that it represents. What is it that makes these cells change? Dr. Bevan has spoken of the work of Morris, and the last speaker has referred to possible changes in the serum. Unfortunately, we know nothing about it. But in the same breath I hasten to say that it is just such work as this that will finally give us the truth we are after. I get up more particularly to call attention to the fact not previously referred to in this discussion, that metastases in cancer may take place through the medium of the blood vessels as well as the lymphatics. I speak of this because I have a section from a small carcinoma of the pylorus which had been worked out serially. One of these sections which I have gives a beautiful demonstration under the microscope of cancer cells breaking into a blood vessel, and their distribution within it.

This brings us back, practically, to the only thing we know of cancer, as mentioned by Dr. Graham, viz., in the beginning cancer is a local disease, and the greatest crime the average practitioner of medicine is committing today is waiting and advising patients to wait until this destructive process has reached a period where it has gotten into the blood vessel and every heart pump sends the cancer material to other portions of the body. We never can reduce our mortality in the time that is coming, when we hope to know what cancer is, until this thing is recognized by the men who see these cases early or first. Right along this line, carrying out the suggestions made by Dr. Mammen of getting a section of a suspected malignant growth for the purpose of microscopic examination, we open up the small vessels and thereby risk a greater dissemination of the cancer. We certainly do not improve the local conditions by removing a section of tissue for the purpose of microscopic examination to determine whether the pathological process is benign or malignant.

In the paper of Dr. Mammen there was one thing left out on diagnosis of cancer of the cervix, which I consider important. It is this: The mucous membrane of the cervix is not freely movable.

**Dr. Carl Wagner, of Chicago.**—I would like to speak on the question of metastasis as well as its importance upon surgical interference. We know that some cases of carcinoma of the breast and likewise of the stomach successfully operated upon succumb shortly after operation from the well-known complex symptom of carcinomatous cachexia, because there had in some other organ previously existed a metastasis. At the same time, adjacent lymphatic glands around the stomach or in the axillary region were apparently absolutely normal at the time of the operation, or found so even at autopsy. This means that we must try to find better means of diagnosis of metastatic tumors, and also make proper and more frequent use of them before we subject our patient to the ordeal of operations which turn out useless on account of overlooked metastases.



In this connection I would like to mention a new feature in the question of diagnosis of metastases, which has heretofore, in spite of the fact that its birth dates as far back as 2182, received but only too little attention. I have reference to metastases in the eye, in which organ the choroid membrane is the seat of the metastases.

This special feature of metastases should be of great interest to that surgeon to whom falls the lot of operating for carcinoma of the stomach and the breast, as most of the reported metastases in the eye originated from a primary tumor located in the stomach and breast. In 1890 I worked out the anatomy and pathology of this kind of metastasis, and published it in 1891 in Heidelberg, under the title of "Metastatic Tumors of the Choroid Membrane." In the study of many hundreds of sections of the choroid of one particular case (Case 15), and of the 14 cases reported up to that time, I was able to show distinctly the difference between a metastatic tumor of this tissue and a primary one. The topographical anatomy of the gross pathological condition of these cases distinguishes them sufficiently as metastatic from the 258 primary ones of Fuchs, of Vienna.

Clinically, they make, as a rule, manifestations which enable us to make a perfect diagnosis. This is especially true in cases in which the existence of another suspected malignant tumor in another part of the body at the same time is recognized. The ophthalmologist may profit by this part of pathology, to make out of the finding of such a condition a diagnosis of a primary tumor located in some other part of the body which may never have made any manifestations, as Case 15 of my monograph demonstrates.

I therefore make a plea, that, first, every case of malignant tumor should be carefully examined ophthalmoscopically, and, if possible, by an eye specialist, or at least some questions put with regard to the condition of eyesight or occasional headache. The former should become imperative, if in such a patient the least complaint of eye trouble has been made; and, secondly, that at all autopsies of bodies succumbed to malignant tumor, the eye should receive as much attention as the kidneys or the heart, in order to enlarge our scope of knowledge on this new and important question.

The following are the principal guiding clinical symptoms:

1. We find in most cases hypermetropia, which becomes more pronounced the longer the tumor has existed (such tumors are known to have existed for over two years.)
2. Entire loss of eyesight of one eye.
3. The left eye is the one of predilection on account of the relation of the large blood vessels to the eye, analogous with those to the testicle, and is always affected first in case both eyes are affected. The transmission of the disease from one eye to the other takes place by the route of the chiasma.
4. Pain in the eye, in the forehead, and especially around the region of the temple,

which symptom, however, is not a constant one, and not always present in the early stages of the disease.

Dr. Wm. Allen Pusey, Chicago: I do not think the occasion should be allowed to pass without someone challenging the statement of Dr. Percy concerning the danger of removing specimens for examination from carcinomas. The danger that exists of the spread of carcinoma from removing superficial sections for examination, is absolutely nil, and there is in my opinion no objection whatever to the procedure but on the other hand very weighty reasons for it. The diagnosis of carcinoma is an exceedingly important matter to the patient and it is difficult enough at times to get patients to allow us to take sections without throwing any hypothetical objections in the way. It is of supreme importance to the patient if he has carcinoma for him to find it out, and it is equally important if he has not carcinoma to have that definitely and positively decided.

Dr. Bevan, in his remarks, referred to the use of X-Rays, and in the main he and I quite agree. He says that the use of X-Rays for cutaneous carcinoma is a justifiable measure. I would state it differently, and say that the use of X-Rays is the method of preference in the treatment of cutaneous carcinomas of such character that a conservative surgeon in operating would not take out the contiguous lymphatic glands. Take, for example a deep seated carcinoma of the lip, in operating upon which a conservative surgeon would certainly take out the glands beneath the jaw. That is not a proper case for the primary use of X-Rays. Other cutaneous carcinomas, however, in which if a surgeon were operating he would not remove the lymphatics at the same time, are I believe preferably treated by the use of X-Rays, and any number of cases can be marshaled in strong support of this statement.

As to the treatment of other carcinomas than cutaneous carcinomas I am only too willing to leave all of the cases to surgeons that they can handle. But there are large numbers of cases before which surgery is absolutely hopeless, and in these cases the patients are entitled to an attempt at relief with X-Rays. Some of them get it, and many of them get marked increase in comfort. In such cases as these the surgeon fails in his duty if he does not give his patients the benefit of X-Rays.

If I understood Dr. Bevan correctly, he questioned whether X-Rays have added anything of value to the treatment of carcinoma. That is I should say, a question of the use of words. Even in my individual experience with X-Rays in treating carcinoma I have had cases referred to me by our most distinguished surgeons that had failed of relief from surgery, and that were hopeless of further benefit, and I have seen these cases get well under X-Rays and stay well. Whether that is an addition of any value to the treatment of carcinoma is purely a question of the meaning which we attach to the word value. I am willing to make the dogmatic statement that it is an addition of exceedingly great value.



As to the deep seated effect of X-Rays, I think this proposition must be admitted, that we can offer nothing definite as to the curative effect of X-Rays on deep seated carcinomas within the cavities of the body. But there are unquestionable facts to prove that X-Rays do affect carcinomas well beneath the surface. For example, Dr. Wyllys Andrews referred to me about two years ago a case of primary carcinoma of the breast with involvement of the axilla and of the lumbar spine. It was, of course, understood that the case was hopeless, but on the family's insistence the treatments were given over the breast until the patient's death. We obtained a post mortem examination, and practically no carcinoma was left either in the breast or in the axilla. I have had a similar experience in a case referred to me by Dr. J. B. Murphy, in which we obtained a post mortem and in which the carcinomatous tissue in the breast had been replaced by connective tissue. These findings are not my own; they were made by competent pathologists and they prove (prove is used advisedly) that we can produce effects upon carcinomatous tissue at a considerable depth beneath the surface. With these facts before us we are not only justified, we are in duty bound, to make every possible effort at treatment with X-Rays of many cases of carcinoma before which surgery stands helpless. Once in a while we are rewarded with a striking result.

**Dr. Albert Goldspohn**, of Chicago: It has been said by Dr. Murphy that the surgeon can prevent carcinoma of the stomach, and if this be so, he ought to have an opportunity to do so namely by resorting to gastroenterostomy.

With regard to carcinoma of the uterus, it is also true that surgery can prevent it in some degree, if that surgery is properly directed. This refers to the numerous operations which have been performed for pathological cervixes, particularly for so-called lacerations of the cervix. Serial sections, microscopically examined, have shown that carcinoma of the cervix begins most frequently some distance up in the cervical canal, not exactly at the external os, but farther than that, chiefly from retention cysts. The cervical mucous glands being constricted at their mouths by the existence of catarrh for some time, become the seat of retention cysts. It is from these cysts that carcinoma occurs more frequently than from any other source in the uterus. Next in frequency it occurs at the site of so-called erosion that is exposed within the vagina. And, thirdly, least of all, we have carcinoma of the body of the uterus. If a lacerated cervix, or any cervix, is regarded as pathological and needs operating upon, amputation of the cervix is the operation indicated, and not trachelorrhaphy or the Emmet operation, which is irrational on many grounds, because it consists in sewing together hopelessly diseased tissues, that are not needed, instead of removing them.

The thing that declares a portio vaginalis to be pathological is not so much some remaining notch upon it, but the indurated condition of the cervical tissue proper, and amputation

of that is a loss to no woman, while the operation, if thoroughly performed, would take away parts from which carcinoma of the cervix occurs most frequently.

**Dr. Murphy** (closing the discussion.)—I desire to thank the gentlemen for their extended discussion of this subject and to call attention again to the emphasis which Dr. Futterer placed on certain elements in carcinoma, namely, the metastatic cellular elements and the changes produced in the epithelial cells by repeated mild irritation. In the study of vegetable life we find that wherever epithelium is transplanted, the epithelial products are uniformly the same, regardless of the sap. We can see in the transplantation or grafting of the common orange that fruit is the product of that epithelium. The argument advanced by Dr. Futterer was, that no matter where the epithelium was transplanted, it produced uniformly the same type of epithelium and the tissue cells in the metastatic area play no part in the new formation, the epithelial cells occasionally underwent transmutation. Again, if the carcinoma were due to a parasite, it should produce in the new tissue in which it was transplanted, karyokinetic changes in the cellular elements of that tissue, not alone modifications and karyokinetic changes in the epithelial cells, producing uniformly an epithelial product, which is an important factor in metastases following primary carcinoma and has no analogy in parasitic or bacterial metastases.

**Dr. Warren**, of Orchardville, has located in Cantrall.

**Dr. Thompson**, of Nilwood, has gone for a three weeks' vacation trip to British Columbia.

**Dr. Julius W. Oswald** 640 Cleveland Ave., has been sued by E. R. Halm for \$50,000 damages alleging the alienation of the affections of Mrs. Halm.

**Dr. James P. Lynch**, 3044 Wentworth Ave., Chicago is one of the founders of a new party recently chartered under the name of the Continental party of the United States of America.

**Oak Lawn Retreat**, Jacksonville, is to be enlarged by the addition of the Colonial Inn to its equipment. It is understood that the proprietors have closed a large contract with the U. S. Government for the care of the insane.

**Dr. E. F. Baker**, Inspector of the State Board of Health reports smallpox at Belleville. He says the situation is alarming but the authorities are awake to the gravity of the situation and are taking all measures possible to check the spread of the disease. It is also reported that smallpox exists at Chatsworth and he has gone there to investigate the case.

**Sir Felix Semon**, physician extraordinary to King Edward VII, was the guest at a dinner given at the Chicago club recently. The host was the Chicago Laryngological association and Dr. E. Fletcher Ingals presided. Sir Felix is on his way to St. Louis.

An Omaha doctor successfully treats lockjaw by placing his patients in a refrigerator. It is the resultant chattering, doubtless, that loosens up the jaw.—(Chicago Tribune.)

## SYMPOSIUM ON ECLAMPSIA

## THE PATHOLOGY OF ECLAMPSIA.\*

BY FRANK W. LYNCH, M. D., CHICAGO.

For many years the fundamental anatomical changes in eclampsia have been a matter of dispute; the lesions have been so numerous and so protean, that it was long thought impossible to be certain of the characteristic pathological anatomy. And although few subjects have attracted more attention, the hypotheses advanced as to the etiology and pathology have been so conflicting, that Zweifel has indeed aptly termed Eclampsia as "the disease of theories."

In earliest times the disease was considered a nervous disorder peculiar to pregnancy, and attempt was made to correlate the anatomical alterations of the nervous system with the clinical symptoms. A definite advance from this standpoint was made following the demonstration by Rager in 1839, and Lever in 1842, of albumin in the urine of women suffering from this disorder. Due largely to the teachings of Frerichs in 1851, and Braun in 1857; it was generally believed that the fundamental lesions were identical with those of nephritis, and the terms eclampsia and uraemia came to be synonymous, and indeed still remain so to the great mass of practitioners.

Soon however conflicting evidence accumulated. It was found that only a very small proportion of pregnant women suffering from chronic nephritis developed eclampsia. Furthermore, many investigators showed that convulsions may develop without pre-existing albuminuria.

Prutz, in Königsberg showed that in only 8 of 22 cases were the kidney lesions sufficiently marked to cause uraemia in the non-pregnant condition. Similar findings by other observers made the theory untenable, and at present it is no longer believed that the kidney changes are primary.

We are indebted to Schmarl for most of our knowledge of the pathologic anatomy of the organs. He, following Jürgens & Klebs,

and Pilliet, who had pointed out the existence of a haemorrhagic hepatitis in certain cases, carefully described the lesions in 17 women dead of eclampsia, and directed our attention to the liver changes which were constantly present, and which at this time must be regarded as most characteristic of the disease.

At autopsy the body of an eclamptic, dead early in the disease, presents no characteristic features. Oedema is not always present. Jaundice is sometimes seen, and rarely are there petechiae and ecchymoses of varying size and number. The face is generally puffed and swollen, as is the tongue which frequently shows injuries, self inflicted during the convulsions.

As has been stated, the most characteristic lesions of the internal organs are found in the liver. Generally this organ is enlarged and swollen although rarely it is decreased in size. Bar, in 17 cases found the weight to be

1900 grains or more.....	6 cases
1700-1900 grains .....	6 cases
1500-1700 grains .....	3 cases
1500 grains or less.....	2 cases

The color is not constant. Generally pale, it may be jaundiced, and is most frequently mottled with areas of reddish brown discoloration. These vary in size and number ranging from pin point size to that of a mans palm. Haemorrhagic foci have been noted beneath the capsule. As a rule the tissue is firm, although it has been found to be friable and in some instances so soft as to indent by pressure of a finger. On section areas of discoloration may be seen as beneath the capsule.

Histologically these may be recognized as areas of necrosis into which extravasation of blood may have occurred. They are most frequently found in the neighborhood of the smaller portal vessels. The necrotic border is sharply marked, and there is usually no evidence of acute inflammation. The biliary canaliculi appear normal. Tracing the process in favorable cases we find thrombi in the smaller blood vessels, about which the liver

\*Read at the 54th Annual Meeting, May 17, 1904.



cells have become more vacuolar; the nuclei disappear, and the groups of cells undergo a change similar to that of hyaline degeneration, into which haemorrhage finally occurs. These lesions were noted by Schmarl in 71 of 73 cases. Bouffe de Saint Blaise in 42 consecutive cases, and by hosts of other observers, although in the light of present knowledge we cannot consider them as the primary cause of the disease. Personally I have found these lesions in 10 autopsies. In some cases changes comparable to those of acute yellow atrophy have been described, and Stumpf twice demonstrated the presence of leucin and tyrosin in the liver.

The kidney almost constantly presents pathological changes, generally those of an acute nephritis with most marked alteration of the epithelium of the convoluted tubules. Microscopically the kidney is seldom as congested as when death follows acute nephritis from other causes. Frequently we find that the acute process is engrafted upon a chronic form. Haemorrhagic points are infrequently described. As regards the frequency of the findings, Prutz noted kidney changes in all but 7 of 368 cases collected from the literature, although he regarded these as secondary in the great mass of cases: Ohlshausen described 2 of 37 cases in which no lesions could be made out.

Halbertsona in 1876, called attention to the fact that the ureters are often enlarged and dilated, and was inclined to attribute the production of the disease to this condition. His argument was largely impaired however, by the work of Ohlshausen and Stadtfeld who found such conditions in non-eclamptic puerperal women, and the observations of Prutz, Herzfeld and others, tends to the view that this lesion is not of fundamental importance.

No definite changes are constantly present in the alimentary canal, although congestion and small haemorrhages are frequently noted in the stomach and small intestine. More rarely these extend to the larger bowel. Haemorrhagic foci are sometimes seen in other organs not yet considered, notably the heart, spleen and thyroid.

The lungs commonly are oedematous, sometimes pneumonia has developed, yet these are generally considered terminal conditions. Such pleural haemorrhages are infrequently seen. The presence of syncytial giant cells in the capillaries of the lung, to which Schmorl attached considerable importance, is no longer regarded as peculiar to eclampsia, since they are constantly found in the pregnant condition.

No characteristic change is found in the genital organs. It is interesting to note that the common white infarcts are seldom numerous or of large size in the placenta. Red infarcts are frequently seen although these are also found in other diseased conditions.

Many lesions of the foetus have been described, chiefly of a haemorrhagic character, yet it must be borne in mind that such are the common findings when the child dies during delivery. Bar however believes that cell degeneration in the liver and kidney is a common finding. The subject of foetal pathology however is as yet an unexplored territory, and personally I have never been able to convince myself of foetal changes which differed in marked degree from those in non-eclamptic cases.

The results of the examination of the central nervous system are variable and many statements have been made concerning the anatomical findings. Oedema, hyperaemia, thrombosis and apoplexy have been described although none are constant and many cases present as normal.

The eyes as a rule present no gross lesions of the retina. Albuminuric retinitis is rarely seen in cases in which eclampsia develops suddenly, and when present should be regarded as a sequence of pre-existing nephritis.

We have thus seen that the lesions are quite frequently of a haemorrhagic character, most marked in the liver. This strongly suggests the presence of toxins circulating in the blood.

Thus far work on the blood has yielded no satisfactory result. Ammonium carbamate, whose presence was suggested by Frerichs, has not been found. The amount of urea



varies in cases, being largely dependant upon the condition of the kidneys, yet Herter states that the percentage is not increased with the appearance of convulsions. Stumpfs cases are of interest in this consideration as he twice found methaemoglobin in the blood. Kollmann thought he demonstrated an unusual amount of globulin in the blood serum, and Massen has described an increase in leucomains. Thus far there is no convincing proof of specific bacteria. Experimentation has also failed to show an increased toxicity of the blood serum.

The results of various observers are most conflicting and as Eden has pointed out, unless separate and definite toxic bodies can be obtained from the serum, experimentation along the lines employed in the past is certain to be vitiated by sources of a serious error. During the winter of 1902, I sought to find changes in the blood by the newer methods of Ehrlich, yet none could be proven by the grosser methods. The serum of both eclamptic mother and child constantly reacted in the normal manner. We noted a slight leucocytosis in some cases, but were unable to draw conclusions as to the relation between the number of leucocytes and the prognosis. The eclamptic blood froze within the normal limits as did that of the child. In one case in which eclampsia developed following chronic nephritis, the blood was found to possess a greater degree of gross alkalinity than normal.

*Urine.* During the eclamptic attack the urine is much diminished in amount, and contains much albumin and many tube casts. Albumin alone cannot be regarded as indicative of approaching eclampsia. Many have shown its presence in cases progressing normally, and Little during my service at the John Hopkins Hospital in Baltimore, found that upwards of 50% of cases had albumin in pregnancy or labor, his series embracing careful records of urinalysis of 1028 women. Nor can the presence of casts alone be regarded as pathogomonic, for approximately 12% of these women had casts and albumin at one time in pregnancy, and a greater per centage in labor. During the last few years much importance has been

attributed to the diminished amount of urea in the urine of cases threatened with eclampsia. We know however that low urea is not always associated with eclampsia, for many of us have seen cases in which the disease developed with urea approaching the normal amount of 22 grams per diem, and others in which it did not develop with a total of 10 grams or even less. Practically however the combination of casts, albumin, and low urea makes a dangerous combination.

During the past year work upon the metabolism of normal pregnancy and eclampsia has been completed by Whitney and by Slemons. The work of the latter is especially brilliant and instructive. Confirming the observations of Helouin, he has shown that the relation between the total nitrogen and that excreted as urea in the urine is altered by the presence of a living foetus, so that in pregnancy the urea nitrogen represents but 86 or 88% of the total. He shows however that the condition of a pregnant woman threatened with eclampsia cannot be determined by the total nitrogenous substances eliminated in the urine, but may be indicated by the relation existing between the various nitrogenous substances. This worked out entirely entails a tremendous amount of labor and for practical purposes we may be content with the relation of the urea to the ammonia in the urine voided by a normal bladder. Thus, low urea may be compensated by high ammonia (8% or more). Such a condition indicates that the patient is toxic but nature is endeavoring to neutralize the poison. While ammonia of 3% or less, associated with low urea indicates a serious condition. This we believe is a discovery of greatest importance, and profiting by it, we may be able to prognose the appearance of convulsions, and take the steps necessary to prevent them.

What is the cause of the convulsions is not yet known. With the recent work as to the causation of diabetic coma in mind, it is not too much to hope that further work in this field will give not only added pathological knowledge but a clear conception as to the etiology of this most obscure disease.

## THE OPERATIVE TREATMENT OF ECLAMPSIA.\*

BY CHARLES SUMNER BACON, M. D., CHICAGO.

In threatened eclampsia before the outbreak of convulsions operative interference is sometimes necessary. The indications for such interference may be either maternal or fetal. If in the later months of pregnancy well known symptoms of intoxication occur that arise from the pathological condition characteristic of eclampsia and if these symptoms persist in spite of diet and the use of eliminants like purgatives and diaphoretics and other appropriate treatment the termination of pregnancy may become necessary. While not entering into a discussion of this indication more in detail I will say that it should receive greater attention than is ordinarily given it. I do not believe that the emptying of the uterus is often required for I think that radical appropriate treatment and most important of all rest in bed will generally tide the patient over the dangerous period; yet certain cases will arise especially when the eyes are involved or when there is much distension of the uterus where operation will be the only way to prevent convulsions.

It is well established that the fetus often suffers from an eclamptogenic intoxication. Pathological anatomical changes occur in the liver, kidney, brain, etc., similar to those found in the mother. This is probably the reason why there is such a large number of still births from eclamptic mothers and why so many children die during the first days of life. It might seem reasonable to hope that a child removed at 35 or 36 weeks would be in better condition than one exposed longer to deleterious influences of the maternal poison. Moreover if a child could be safely removed at this time it might escape the danger of a hasty operative delivery. This consideration, while not furnishing an independent indication for labor, may be of supplementary value in making a decision when the condition of the mother is such as to excite apprehension.

If termination of pregnancy is decided upon two methods should be considered, (a) the induction of labor and (b) the removal of the child by Caesarian section.

The principle that should determine the method of inducing labor for threatened eclampsia is to choose the operation that will least disturb the patient. It is not unlikely that the disturbance of labor is frequently the immediate exciting cause that brings on a convulsion. Hence one should avoid any operation that might have the effect of a prolonged and severe labor.

In accordance with this rule in cases of hydramnion, twins or other conditions where the patient suffers on account of abdominal distension one would bring on labor by rupturing the membranes. In other cases the Krause method of using a bougie, if properly employed is efficient, safe, reasonably prompt and causes no more disturbance than normal labor. The bag or manual dilatation of the cervix is not often needed and while by its use labor can be completed in much shorter time it disturbs the patient much more and requires sometimes long continued anesthesia.

The proposition to remove the child in these cases by opening the uterus is a new one, but one that promises several interesting advantages over the induction of labor in certain cases. The danger of convulsions occurring during induced labor is avoided. Other dangers not as yet fully recognized like the production of organic lesions of the liver and kidneys and myocardium are present in case of any labor in an eclamptic woman. These would be avoided also by such an operation. Moreover the chances of the child are of course improved in this way.

An abdominal Caesarian section would be employed in case of some obstruction in the pelvic obstetrical passage, like contracted pelvis, etc. Otherwise the new operation of vaginal Caesarian section would be performed because it is attended with less shock and leaves no external scar.

I have recently reported a case of this kind that well illustrates the points just made. In brief the case was as follows:

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The patient had severe convulsions in her first labor which led to the birth of a dead child. Four years later during the latter half of her second pregnancy symptoms of severe eclamptogenic intoxication appeared. In spite of rigorous treatment the albumen increased to 35% by examination with the centrifuge, headache became very severe and vision very greatly impaired. I had hoped to carry the pregnancy to the 35th week on account of the child but the appearance of the eye symptoms and the urgent advice of the consulting ophthalmologist, who represented that continuance of pregnancy involved great risk of permanent loss of vision led both Dr. Frank B. Eare who was associated with me in the case and myself to decide upon interference in the 31st week. For reasons given above vaginal Caesarian section was chosen and the child delivered in fair condition. Although it was placed in an incubator and well cared for it lived only about 40 hours. The condition of the mother began to improve a few days after the operation and at the end of two months she was in fair state of health.

After the occurrence of convulsions rapid operative delivery is indicated when possible i. e., when it does not in itself involve greater danger than that presented by the eclamptic condition. While in perhaps  $\frac{1}{3}$  of all ante or intra partum cases convulsions do not cease immediately after delivery and in 20 to 25% of all cases they first appear in the puerperium yet as the disease is due to the connection of the egg with the maternal organism it is desirable to separate it as soon as possible. It is also true that in hospitals where active interference has been instituted, the mortality from this affection has diminished. In other words the clinical results prove that proper interference is beneficial. Moreover the hope of saving the child may have some influence in deciding upon the operation.

In order to achieve the hoped for results from operative interference it is necessary that the best facilities for performing such operation be secured.

For any of the operations included under the term *accouchement force*, it is necessary

that the operator have a table, good light, necessary instruments, assistants, aseptic preparation and the requisite skill. All these essential conditions can be obtained much better in a hospital and it is therefore desirable to secure the advantages of a hospital whenever possible. The danger of transporting a patient two or three miles is not to be overlooked but it is more than counterbalanced by the facilities for good work.

The contra indications to operation, when the patient is not moribund is found in the absence of or impossibility to secure the necessary facilities. It is safer to combat the dangerous symptoms with morphine and promote elimination by purgatives and sweating and perhaps bleeding than to attempt dangerous operations with an uneffaced and undilated cervix without proper conditions.

All operations should be made under complete anesthesia. The good results now obtained from active operative therapeutics are due in great part to the general observance of this rule. Without anesthesia painful manipulations are apt to bring on convulsions and in any event the struggles of the patient and the shock to which she is exposed have a deleterious effect on her strength and especially on the already overburdened and weakened heart. Before the general use of anesthesia in these cases operations often hastened the fatal issue and so came into disrepute from which they have only emerged within the last 10 to 15 years.

The choice of the anesthetic is in dispute. Personally I believe that ether is preferable to chloroform. Some give preference to chloroform because in eclampsia where there is almost always kidney disease they believe chloroform less injurious. The statement that ether is more dangerous than chloroform in kidney disease has been passed along from one writer to another but as in many similar instances very few have taken pains to confirm it by personal experiment or careful and sufficient study. Lately a number who have studied the subject have come to doubt the statement and I believe it should not be given much if any weight. On the



other hand the much greater safety of ether in case of heart strain and exhaustion makes it especially indicated in eclamptic cases. Lesions of the myocardium are found very frequently in post mortem examination of patients dying from the disease and may be considered one of its characteristic pathological changes. This diseased heart is put to greatly increased strain during a convulsion. It is evident that the anesthetic that works the least harm to the heart should be chosen for an operation and I feel confident that ether will always serve us best.

The remarks concerning an anesthetic apply only to that used for operation and not to an anesthetic to control convulsions. I believe that anesthetics have no place here, that morphine is much safer and that the frequent long continued use of chloroform for this purpose is very bad practice.

To consider now the operative means to be employed in different conditions *ante partum* and *intra partum*, we may begin with that condition about which there is no difference of opinion, namely when the cervix is completely dilated. Here all are agreed that the child should be delivered immediately or as soon as the patient can be anesthetized and preparations made for the operation. In case of head presentation, forceps will be used and in a breech, manual extraction will be employed. If there be obstruction in the passage due to contracted pelvis or a tumor or if the passenger be abnormally large or deformed the case will be managed in accordance with the rules that apply to the management of dystocia due to these causes.

When the cervix is effaced but only slightly or partially dilated we have a condition where our facilities for work may influence our procedure. We have the three methods of dilatation, incision, digital and bag dilatation. The first is accomplished in a moment and allows immediate extraction. It however requires good assistance for its proper execution and for the repairs that are quite likely to be needed. Hence it should only be attempted in a hospital or where equally good conditions can be secured.

All preparations for the operation, for repairs and for control of hemorrhage having been made the patient is placed anesthetized on a table in a good light and large retractors inserted in the vagina to expose the cervix. The posterior lip is first caught with two artery or vulsellum forceps, each side of the median line and then cut through to the vaginal junction with long angular scissors. The anterior lip is then held and incised in the same way. This prepares the cervix for forceps or turning and extraction. The greatest danger is due to the unprepared state of the vagina which in primiparae is apt to be badly torn during the forcible delivery. If this danger can be minimized or the injury well repaired this operation may promise the best results for mother and child.

Where assistants and other facilities are lacking we must rely upon digital dilatation or metreurysis or both combined. For these operations the patient should also be anesthetized, shaved and cleaned and placed on the table. Digital dilatation may be effected by using the fingers of one hand according to the method of Harris or by the fingers of both hands according to the Edgar method. In the first case the hand is very carefully sterilized and perhaps covered with a glove and the half hand introduced into the vagina. The forefinger is then pushed through the os. It may be necessary to make a preliminary dilatation with a branch dilator. The forefinger is withdrawn to its tip and the second finger inserted along beside it. After these are carried through the os the distance of one to two inches they are separated as far as possible. They are then withdrawn and the third finger added to the other two. After separation and dilatation as before the fourth finger is added and dilatation completed as far as possible. Then the whole hand is carried into the vagina and the thumb with the fingers pushed through the os to the metacarpophalangeal articulations and the fist closed. The average fist measures about 27 cm. in circumference which is about  $\frac{3}{4}$  of the circumference of the average fetal head.

By the Edgar method after introducing the forefinger of one hand the corresponding finger of the other hand is inserted and the os pulled open as in dilating the sphincter ani in an operation for hemorrhoids. Later two or more fingers of each hand may be used in the same way.

By neither of these methods is the cervix opened completely as in normal labor. The tissue is not pulled up into the lower uterine segment and a rim remains that is liable to tear during extraction. However if one can take time to complete the dilatation as well as possible, extraction may be made without great risk. The time required will vary greatly depending upon the amount of the spontaneous dilatation that exists at the beginning and the thickness and distensibility of the cervical tissue. In favorable cases one may succeed in 15 to 30 minutes while frequently 1 to 2 hours or more may be required.

The metreunyster or uterine bag opens the cervix in a way more nearly approaching the normal but its use requires the help of one or more assistants. The conical, inelastic, vulcanized bags of Voorhees are most to be recommended. With the patient in position as before described, the cervix is seized with a vulsellum forceps which is held in the left hand. The right half hand is then introduced into the vagina, the forefinger carried through the os and the membranes ruptured. Then the empty folded bag is pushed through the os with the finger and held in place with the fingers in the vagina until it is filled with sterile water by means of a bulb or fountain syringe. The hand is then withdrawn and the tube clamped or tied. Some traction is now made on the tube until the bag is pulled through the os. A larger bag with a circumference at the base of 28 to 30 cm. is then introduced and used in the same way. This method generally takes considerably longer than the other and it may be desirable to let the patient come partly or entirely out from under the influence of the drug during its use.

Recently a strong, powerful, metal dilator operated by a screw invented by Bossi has

been considerably used in Europe and very rarely in America. Numerous reports of severe and serious tears have shown this instrument to be dangerous and not to be recommended.

After dilatation or during dilatation if it lasts very long and if the condition of the patient allows it may be well to let her come out of the ether in order that the child may descend into the pelvis and if possible be expelled spontaneously. Generally it is to be extracted by forceps or by version and extraction as soon as dilatation is effected. Of course if the child is dead, craniotomy should be done.

When the cervix is not yet effaced either before or at the beginning of labor the problem of management is more difficult. Cervical incisions are not sufficient and sufficient manual dilatation or metreuryesis will generally require many hours.

Such long continued manipulation is dangerous both on account of the anesthetic and the risks of infection and shock.

If the patient be in a hospital and if the physician possesses the necessary skill the vaginal Caesarian section will probably procure the best results. It is much safer than an attempt to extract through a partially dilated cervix, the old *accouchement force*. The patient properly prepared is placed on the table and the cervix grasped anteriorly by vulsellum forceps, one each side of the middle, which are then substituted by traction sutures. A longitudinal incision is then made from a short distance behind the meatus urinarius to the external os through the vaginal mucous membrane. The bladder is then separated from the cervix by means of gauze sponges, the loose tissues between the bladder and uterus yielding easily. The cervix is then cut through on the median line with scissors. As the incision extends upward the edges are caught by vulsellum forceps upon which traction is made to bring more and more of the anterior wall of the uterus within reach. This is split through, the vesico-uterine fold of the peritoneum being pushed up. In this way an opening may be made large enough to admit easily the closed fist through which the head

may be extracted. If the child be at term it may be well to split the posterior wall of the cervix. An incision is made in the posterior vaginal wall, the rectum separated and the cervix incised in the same way as the operation was done on the anterior wall. Sometimes it may be necessary in order to get more room for extraction to make cross incisions in the vaginal wall. Unless the head is in the pelvis delivery is accomplished best by version and extraction. After the birth of the child it is not necessary to deliver the placenta at once. This might lead to considerable and unnecessary hemorrhage and probably require packing of the uterus. If there has been no detachment of the placenta and no hemorrhage from the placental site the cord should be cut short and pushed back with any protruding membrane by a sponge and the repair of the incisions begun. The edges of the uterus wound are caught with forceps as before and pulled down until the upper angle of the wound is in plain view. Then with a well curved needle and strong catgut the wound is closed with interrupted sutures knotted on the inside of the uterus. Before the lower part of the cervix is repaired the placenta must be expressed and any hemorrhage checked by hot uterine injections. The vaginal incisions are closed in the usual way.

If the operation just described is impossible we must choose between giving all of our attention to securing elimination and controlling dangerous symptoms or cautiously assisting labor while attending to the general condition. If the patient is not overwhelmed with the eclamptic poison, if the convulsions are few, the coma not profound and the heart in good condition the first may be the best plan to pursue. Morphine hypodermically in  $\frac{1}{6}$  to  $\frac{1}{4}$  grain doses up to  $\frac{3}{4}$  grain, is the most reliable agent to control convulsions. Profuse sweating by packing or hot air should be secured. Two to four drops of croton oil placed on the tongue will secure free and prompt purgation.

Bleeding from the arm will rarely be required but in desperate cases should be resorted to. The subcutaneous injection of

one to two pints of normal salt solution will often have a favorable effect.

Oxygen should always be used to relieve the overburdened heart.

In connection with these measures when the symptoms are more urgent we may induce labor or slowly dilate the cervix. As before stated rapid dilatation and extraction in these cases is impossible and any attempt in this direction is apt to lead to great disaster. The proper way to proceed is to anesthetize and prepare the patient, dilate the cervix with a branch or solid dilator to admit one finger, rupture the membranes and introduce a small Voorhees bag. Then ether should be withdrawn and the patient put back in bed. With careful control of symptoms and care for elimination as outlined above the labor should be allowed to progress until the bag is expelled. Then if necessary the anesthetic should be given again and another bag inserted and again labor be allowed to proceed as before. Finally after the cervix is well dilated or after the effacement is complete and more active dilatation is safe more active measures may be taken to deliver the child.

**Discussion on the Papers of Drs. Lynch, Whitten and Bacon. (Symposium on Eclampsia.)**

**Dr. Joseph B. DeLee, of Chicago.**—Mr. President: It is not my intention to discuss the papers which have been presented, but simply to present a very brief analysis of thirty cases of which I have had charge. In looking up my records for these cases, I found in addition to the thirty here reported seven additional cases of eclampsia which I had forgotten. The records of these seven, however, are imperfect; they are mostly cases that were seen in consultation, so that I have not put them in this list. In addition to the thirty-seven cases, there are six cases of patients on the verge of eclampsia, and in whom pregnancy was terminated with a view to preventing the accident, and it was successful in all cases. Whether or not these patients would have had eclampsia, I am not able to say.

The ages of these thirty patients were as follows:

Twenty years and under	7
Twenty to 25	11
25 to 30	7
30 to 35	2
35 to 40	3

30

Of this number, 2 were cases of chronic nephritis; 25 of the women were primiparae,



and when we have so many primiparae as compared with multiparae, the importance of eclampsia in primiparae is easily seen. Five of these primiparae died, making a mortality of 20 per cent. Five multiparae had two, four, seven and ten children each. One woman with ten children died. She had had a chronic nephritis for years, and probably died of uremic convulsions. Doubtless, it was not a true toxemic eclampsia.

Convulsions occurred in 18 at or near full term, after viability of the child, but before term in 7, and in the early months of pregnancy in 5. One woman had eclampsia in the tenth week of pregnancy, she having had sixteen convulsions. This is the earliest case I am acquainted with.

The previous history of the cases has proven interesting. It shows that in nearly all of the cases the women had had some sickness antedating their eclampsia, which had a more or less direct bearing upon the convulsions. The mother had eclampsia in one case; convulsions present when the patient was a child, 1 case; scarlet fever preceded in 5 cases; other infectious diseases, such as diphtheria, measles, typhoid fever, 2 cases; heart disease, 2 cases; cystitis, 1 case; nephritis, 2 cases; nervousness and ill health (general), 6 cases. No record was made in 9 cases.

It is generally believed that eclampsia occurs less often in pregnancy, most often in labor, and less often in the puerperium.

#### Time of Occurrence.

Before labor began,	10, 2 died
During labor (convulsions began),	12, 1 "
During labor (convulsions con.)	3, 1 "
After labor (convulsions began),	8, 4 "
After labor (convulsions con.),	5, 1 "

Total deaths in 30 cases, 7

Albumin and casts were present in all from which we obtained specimens of urine, namely, 28 cases. Ingerslev reported 108 cases without albumin or casts. I do not understand that, and the late Professor Jaggard once made the statement that in no case in his extensive experience was the urine free from either albumin, casts, or both.

The number of convulsions varied from 1 to 37. A woman who had 37 convulsions died, while one who had 30 recovered. One who had 4 convulsions died.

The temperature varied from 101° to 103°. Many women had a temperature of 103°; three had a temperature of 106°; three had a temperature of 106° to 108° all died.

An important point I have emphasized, and desire to re-emphasize today, is this: We have listened to an interesting discussion on carcinoma this morning, and during this discussion, the importance of getting cases of carcinoma early was pointed out, and it was stated that if we could get them early we could do something for them; we could prevent the development of carcinoma recurrences. That is what we want to do in obstetrics,—prevent. It has been said that eclampsia is a disease that flashes out without warning. Eclampsia in all the cases reported here presented a warning of

from one day to four weeks before the outbreak of the convulsions. In one case warning was denied. One case, only three hours before convulsion. One case, no record. In 27 cases, warning present from a day to four weeks before labor. Edema of the extremities, severe headache, amaurosis, vomiting, and in many cases albuminuria were determined weeks before the onset of the convulsions.

**The Children**—Non-viable, 5, of which 5 died; premature, 7, of which 1 recovered; 3 delivered alive (died of morphine and asphyxia); 2 died during delivery; 1 macerated.

At term, 18 cases (2 twins), with 20 babies; 2 macerated, 1 died of sepsis after circumcision; 2 (twins) died in labor.

Of 16 children at term and viable, 2 died, 14 lived. Two of the children had convulsions.

With reference to treatment, there was spontaneous delivery in 14 cases; bag of waters punctured in 1 case; in most of the cases rupture of the membranes began the treatment cervix dilated in 14 cases, with bags, fingers, and Bossi dilator. The Bossi dilator, used three times, lacerated the cervix every time, in spite of the fact that it was used in accordance with Bossi's explicit directions, taken from his original paper, and in 1 case the laceration was so extensive that I gave up the use of the instrument.

Regarding **accouchement force** as improving the treatment of eclampsia, it was resorted to in 10 cases, with dilatation of the cervix, incision of perineum, and delivery. Of these 10 cases, convulsions persisted afterwards in 6; they were less severe in 1. Rapid delivery had no effect upon the progress of the eclampsia. The convulsions gradually grew less in severity, although the patients died in the same proportion as in the other cases.

#### Deaths and Causes.

Total deaths, 7, or 23 per cent.

1. Post-partum eclampsia, temp., 106°.	1
2. " " " " 106°.	1
3. " " " " 108°.	1
4. " " " 28 convulsions,	1
5. Convulsions before, during and after; jaundice,	1
6. Convulsions during and after; nephritis	1
7. Hemorrhagia cerebri,	1

What bearing have these statistics upon the prevalent moot question regarding eclampsia? First, as regards causation. My cases give no information regarding the causation of eclampsia. Recovery of the patient is likely if the fetus dies. We know that when the fetus dies recovery often ensues.

As to the use of veratrum, I cannot give you all the details, but I started out by using it very slowly. I did not believe much in it. There were three cases in which I thought it had a wonderful influence, yet in three others it did not have a bit of effect, and the women died in spite of it.

With regard to venesection, some time ago the older practitioners in this Society converted me to the use of venesection in cases of eclampsia. They all reported such gratifying results

that I resorted to it in some cases, but it did not seem to do the patients much good; some cases died and some cases got well under its practice.

As to the use of salt solution, I have administered it in large quantities in these cases, as I find that small quantities have no effect on eclampsia.

**Accouchement force**, rapid delivery, in my experience has not bettered the results in eclampsia.

I am sorry to be iconoclastic in regard to any method of treatment of eclampsia, but I cannot see any positive and enduring results from any single method at present in vogue.

**Dr. Effie L. Lobdell, of Chicago.**—If we were to take seriously the subject of the first paper (referring to the paper of Dr. Lynch), I think we would throw away the greatest safe-guard we have, that is, the clinical sign of albumin in the urine. It may be it is defective, and does not fulfill all we have been taught regarding it, but that it is still the most practical hint we have on which to base a possible event is still true, and nothing which has been found has been reduced to such an easy method for analysis and examination of such cases as come to us in our emergency work, that we can afford to throw it aside entirely. I have in mind the case of a friend who had eclampsia two weeks ago. The first specimen of urine I had was brought to my office and I made a rather hurried examination, and from the findings advised her husband, who is in a position to call in a consultant, to do so at once, and within four hours from this time the woman was admitted to the hospital, and within four days she was delivered by vaginal Cesarean section.

We have considered what is radical and what is conservative in the treatment of these cases. I believe that the function of the uterus is quite independent of the condition of the eclamptic patient, and that we should not necessarily turn our attention so intently to the fact that the patient is pregnant as to the fact that there are general conditions which call for treatment, and that there must be elimination and encouragement of all normal functions, and the fact that she is pregnant is secondary to the other. Out of seventeen cases that I have had, I have allowed four who were from eight to six weeks prior to full term to go to term. I put a less estimate on the value of life itself than the conditions which sometimes follow our meddling; consequently I was anxious to see what would occur if there was no interference. The result was all continued to end of term, and there were two living children out of the four born. I had one case of insanity following in which a chronic nephritis was found to be present.

As to what is radical and what is conservative, I should say that much will depend upon the individual case. If we can allow a woman to go on to term, I believe it is more favorable to her than to hasten delivery. We can easily tell this within two hours if she seems to respond to treatment. There is no system of treatment I have found successful in all cases, but each case must be treated individually and

logically. In the case of my friend, labor was terminated by vaginal Cesarean section after waiting four days, but it was brought about by the fact that death of the fetus was noted, and at the same time there was some rise in temperature which called for surgical interference. The patient made a good recovery.

I think we have made a great advance in the care of our eclamptic patients. I would emphasize what Dr. De Lee has said with reference to seeing these cases early. There is undoubtedly a warning, but it is overlooked by the family physician. These warnings are frequently overlooked; These cases are amenable to treatment if gotten early. Unfortunately, they come to us very largely as emergency cases, and many times we cannot avail ourselves of a hospital. We cannot always do things in a house that we do in a hospital, so that each case must be taken care of by itself. Examination of the urine should not be done away with until we have better bedside methods of diagnosis and prophylaxis.

**Dr. Denslow Lewis, of Chicago.**—I regret very much that the limited time at our command prevents the full consideration of this subject, which its importance warrants. Most obstetricians agree that chloroform is preferable to ether under all circumstances in obstetric practice. Indeed I think it is generally conceded that possibly 95 per cent of the experienced obstetricians of the world make use of it. About 1887 I reported some cases before the Chicago Medical Society, the year the late Dr. Etheridge was President, in which ether and chloroform were used, first one, then the other, in laparotomies. In many instances we determined albumin in the urine following the use of ether, whereas in every instance in which chloroform was used there were no marked changes apparent by urinalysis.

Regarding dilatation of the os, I did not hear Dr. Bacon speak of Tarnier's *ecarteur* which, in my experience, is of all forms the preferable instrument to use. It is of great advantage in opening the os, and is much preferable, in my judgement, to the bag of Barnes, or even the Champetier de Ribes balloon, and infinitely superior to Bossi's dilator, which I consider a mutilating and dangerous instrument.

There is one method of treatment that was not mentioned, which is really of the greatest importance. I refer to Cesarean section. Of course, most practitioners look upon it as one of the rare operations which should be done under the most exceptional circumstances. If however, we can see, as I have done in the practice of Olshausen during a period of six months, six cases of eclampsia submitted to Cesarean section, with recovery of mother and child in each instance, it would seem that others might profitably perform the operation under similar conditions. I detailed my ideas on this subject at a recent meeting of the Bureau County Medical Society, describing Olshausen's technique, which is simplicity personified. All practitioners should bear in mind that Cesarean section is an operation of emergency which should be done as frequently as any other emer-



gency operation, and if the operation is performed before the woman is exhausted or infected the chances of recovery are often superior to the usual procrastinating methods now in vogue.

**Dr. William K. Newcomb, of Champaign, Illinois.**—I have nothing to add to the excellent papers, only Dr. Lee's discussion touched upon one point regarding which I have had a rather unique experience, and that is the point of heredity in eclampsia. I have had a case of eclampsia in a woman, a primipara, twenty-two years of age, whose two paternal aunts had eclampsia, one of whom was treated by venesection and recovered; the other died. The mother of the patient had eclampsia during her fifth pregnancy at the seventh month, was delivered of a dead fetus, and mother recovered. A cousin of the patient had eclampsia in the same house three months after my patient died from it. The people on both sides were large, plethoric, florid, and of gouty diathesis. The mother of the patient who died has since developed a gouty affection of the joints, from which she is entirely crippled.

**Dr. Rudolph W. Holmes, of Chicago.**—I think there should be a clear differentiation made between the uremic state in pregnancy and the eclamptic; when a woman is uremic, and all approved methods of treatment fail, then the question of inducing labor should be considered. One should consider the use of the catheter, instrumental dilation to secure a sufficient opening for the passage of a bag, and then waiting for spontaneous birth or eventually instrumental delivery. In grave cases of uremia one would consider radical rapid delivery. In the eclamptic stage, however, there are two things to be considered: one, to treat the woman conservatively, and the other, to operate. We would treat a woman expectantly who has one or two or more convulsions that are not severe, where there is an interval between the attacks, the woman is not in deep coma, and rapidly regains consciousness, and whose pulse is not rapid, under 100, and still of good tension; and her emunctories stimulated into activity. On the other hand, when a woman has repeated convulsions, in whom coma is deep and persistent, with no apparent amelioration from the tentative measures that are applied, then I believe a radical rapid delivery is the operation of choice. The object is to get such a woman delivered as quickly as possible, with the least irritation. If a catheter be used in such a woman as that, she is exposed to rhythmic irritation from the uterus. If a bag is introduced, the same objection holds. We cannot keep a woman anesthetized anywhere from one to twenty-four hours, and in such cases of emergency I believe the proper thing is to deliver the woman either through the vagina by the rapid hand dilation of Edgar, of Harris, or by the Bossi dilator; I do not believe that the exponents of the Bossi method are strictly honest in their declaration that there were little or no lacerations in the cases reported by him: Any rapid method of dilation has a great danger from extensive lacerations, which too

often are unavoidable at the hands of the most expert.

With regard to vaginal Cesarean section, perhaps it had better be reserved for those cases with rigid os, especially where hospital facilities are available.

**Dr. H. W. Chapman, of Whitehall.**—I would like to say a word or two in regard to a method of rapid forced delivery that has been useful to me. It is one that was demonstrated to me by the late Dr. David Prince, of Jacksonville. I saw him deliver a woman by this method. The method was described in the American Journal of Obstetrics I think several years later. Credit was not given to Dr. Prince, but so far as I know it was original with him. Under profound anesthesia the hand is introduced into the vagina; the forefinger inserted into the os, and sufficient dilation made by pulling around to get the second finger in. As soon as the second finger is inserted, the thumb enters as a wedge between the two fingers. (The hand, after being placed in the vagina, is not removed until it comes out with the child's leg or legs.) The thumb is withdrawn from between the fingers. A third finger is inserted, and the thumb again inserted between the index and second fingers. The thumb is again withdrawn, the little finger inserted, and the thumb again inserted in the same manner between the index and second fingers. One hand is now passed into the uterus, seizes a foot or the feet and version is performed. As the hand comes out, an effort is made to make it as large as possible. It descends with the child's legs, traction is not made after the head reaches the superior strait. Bulbit is made to engage by pressure from the outside. Forceps may have to be used later. It is a great satisfaction to be able to cope with such a case, and effect prompt delivery without having to have a very large array of instruments and apparatus. By this method it is possible to deliver even a primiparous woman in a very short time.

**Dr. Wm. H. Maley, of Galesburg.**—I want to call attention to the fact that I believe in the cases that have been reported, most of the speakers have had hospitals, with plenty of assistants, nurses, and instruments at their disposal. When a physician is away from the city, away from a hospital, from nurses and instruments, and is confronted with a case of eclampsia, what is he to do? Send the patient to Chicago, or send her to the city for assistance, or does he go to work and with his hands and instruments immediately begin to deliver that woman? I wish to ask if that is not a rational procedure, and if that is not what a physician caught in such stress should do as quickly as possible?

**Dr. Lynch (closing the discussion on his part).**—I regret that I was misunderstood in regard to the importance of urinary examination in cases of eclampsia. I really did not know that there was anything in the practice of medicine especially easy, nor do I think the determination of the urea nitrogen by most of the modern processes is an entirely easy proposition. I think the importance of albumin is



absolutely thrown out by the fact that we may have albumin, we may have casts, we may have a diminished urea, and yet have no eclampsia, and this is merely one of the accompaniments of the disease. It is one of the manifestations in the majority of cases. In 51 cases of eclampsia I have examined the urine personally, and in all cases I saw albumin coagulate in the tube for hours. The lesions at autopsy in many of these cases are indicative of Bright's disease, and I really think it is a mistake to insist upon the importance of this condition which is recognized as an accompaniment of normal pregnancy.

In speaking of the Bossi dilator, it is a rather interesting fact, that this instrument, which is dangerous in the hands of most of us, was described two years before Bossi described it, by a physician in North Carolina, whose name, unfortunately, I have forgotten. A diagram of the dilator appeared in a local medical journal published in North Carolina.

There is one other point I would like to speak of in closing the discussion, and that is the relation the child bears to the prognosis of the disease, that is, where the child is alive or dead. The ammonia curve is influenced by the child, and it is said that pregnancy is responsible for the eclampsia. This curve is low in pregnancy; in the early months it goes up higher, and after labor it falls to normal. It also falls to normal when the child dies in utero. I would not like to state that as a general rule, because I might say here that in six cases a study of the metabolism of normal pregnancy required two years' work by one man who did nothing else, and all urine, lochia, and feces were carefully saved, and nitrogen determined for the total and for its individual parts; also the food or weight, and the patients were in charge of a trained nurse who was directed to catheterize rather than empty any of the urine voided. As far as we could be certain, from a limited number of cases, we can conclude that this ammonia is influenced by the presence of the child, and curious enough this is confirmed by the clinical findings. When the child dies in utero, as a rule, the prognosis is better.

I would like to call attention once more to the relation of the ammonia. It cannot be detected by the Doremus method, because the hydrobromate method takes not only urea nitrogen, but that of ammonia. There are many methods described in von Jaksch that can be used at the bedside, such as the sulphuric acid method, and making a reading in a couple of days. The presence of this curve must be regarded at the present time as very suggestive.

**Dr. Bacon (closing the discussion).**—I would like to reply first to the remarks of Dr. Maley and to those who have preceded him, because they are the most important. Dr. Maley asked if the thing to do is not to empty the uterus as soon as possible with what facilities we have. That is an important point, and I should say, decidedly, no. I think a great many women would lose their lives if such a practice was put into effect. I know many cases of that

kind in which that treatment has been carried out. If the uterus is not dilated, and the cervix is not effaced, not at all open, it is a serious matter to open the uterus and extract a child. It means death of the child and generally a severe laceration; it is liable to infect the mother and frequently cause her death. This is so well established by the results that I think it ought to be forcibly stated. I have not a particle of doubt that it is a great deal safer in cases of that kind to deliver a woman by classical Cesarean or vaginal Cesarean section. I am rather inclined to believe, from the progress we have made with vaginal Cesarean section, that it is the more important operation, and for that reason I would not hesitate to resort to it, leaving for all cases the other operation in which vaginal Cesarean section is not indicated.

The immediate opening of the uterus, where there are no reasonable facilities, is much safer than accouchment force, described by Dr. Maley. We have considered obstetrics in an entirely different way from what we consider ordinary surgical methods. Surgery has its definite rules, which obstetrics cannot have, because we have to take into account the facilities, and if we have not the facilities we must do the next best thing. The next best thing is so-called conservative treatment, that is, eliminating thoroughly and controlling the symptoms, and watching the patient with the utmost care. If this is done, I am positive that our results will be better than to resort to forcible emptying of the uterus when we have not the facilities to do so.

With regard to one or two interesting points made by Dr. De Lee, I will say that his experience in regard to post-partum convulsions agrees with mine. From my own experience, I should say that post-partum convulsions are very serious, and my views are quite in opposition to the usual statements made on this subject. It seems to me, the accumulation of poison which will lead to convulsions after delivery is so severe, and probably the myocardium is so injured, that the outcome is more doubtful.

With regard to the prognosis of the different symptoms, a point brought out by Dr. DeLee and Dr. Lobdell, that I will not go into except to say that the prognostic value of these symptoms is quite different from their diagnostic value. A probable continuation of the increase in albumin and edema, under proper treatment, is of serious prognostic significance.

The point made by some in regard to the fetal indication was not quite logical. The point I made was this: There may be a fetal indication; we may interfere before the convulsions occur, in order to save the child. This may influence our decision. If, in spite of treatment, the symptoms continue, we may infer that the child is exposed to considerable danger. That point is not answered by saying that children are alive at the end of term, but the simple fact was in the case mentioned the

poison was later in developing. If the poison develops early, there is certainly more risk to the life of the child.

With regard to the remarks made by Dr. Lobdell (I regret she has left the room), I should not consider it conservative treatment to do a vaginal Cesarean section for the purpose of removing a dead child. It seems to me rather singular that a vaginal Cesarean section was done in this case when the child was already dead. Personally, I do not see any indication for vaginal Cesarean section in such a case. If there was infection, there might be an indication for removing it. If there was no infection, labor would recur spontaneously.

With regard to the remarks made by Dr. Lewis, as to the use of ether, of course it opens up the whole discussion of ether and chloroform, but the more recent investigations, such as those collected and reported by Dr. Mellish, in a paper read before the American Medical Association last year, in New Orleans, show that the danger to the kidneys from the use of ether has certainly been exaggerated. It has not been proven that ether is more dangerous than chloroform, and the statement of Dr. Lewis that chloroform is almost the universal anesthetic in obstetrics is rather misleading. Of course, it may be in certain parts of the country but such a statement is not generally true, and I believe that we shall see in the near future a considerable increase in the number of practitioners who use ether, which is certainly the safer anesthetic.

### APPENDICITIS WITH PERIAPPENDICULAR ABSCESS AND INFECTION OF A LONG-STANDING OMENTAL HERNIA IN THE RIGHT INGUINAL REGION.

BY BAYARD HOLMES, M. D.

Professor of Surgery in the College of Physicians and Surgeons, Medical Department of the University of Illinois, etc.

On Sunday, September 4th, 1904, I operated on a patient for Dr. E. E. Perisho, of Streator, Illinois, and found a condition of great pathologic and clinical interest.

The patient was a well-proportioned woman of 40, weighing 150 pounds, the mother of several children, and had suffered for two or three years with an irreducible hernia in the right inguinal ring. This hernia was about the size of a walnut. It gave rise to only trifling pain and discomfort. It had been repeatedly seen and diagnosed by Dr. Perisho. Thursday night, September 1st, after a long wagon ride, she felt some distress

in the hernia and in the lower part of the abdomen. She waked up several times in the night with the pain. On Friday she had several attacks of abdominal pain, and visited Dr. Perisho at his office Friday afternoon. Dr. Perisho made a relative diagnosis of appendicitis, but considered the presence of the omental hernia as a factor which would complicate the diagnosis and possibly make the treatment difficult. He prescribed rest in bed, the total abstinence from food, and a vigorous use of enemas. Friday night and Saturday she had severe pain, and on one occasion vomited. She sent for Dr. Perisho in the afternoon, and he found increasing symptoms of peritonitis about an inflamed appendix or a volvulus behind an omental constriction. Shortly after his visit she had a pronounced chill, and her temperature went up to 104°, her pulse to 130. On Sunday morning he recommended operation, and I operated for him at eleven o'clock Sunday night at the home of the patient.

At this time the patient's temperature was 103°, her pulse 116—it had been as high as 140 during the early part of the day. The hernia was plainly palpable and very tender to pressure. The region of the appendix was excessively tender and the right rectus muscle very tense. The palpating finger could discover nothing pathologic in the tubes or uterine region through the rectum or vagina, and the region of the spleen, liver and kidneys appeared perfectly normal. The attitude and expression of the patient indicated a considerable peritonitis. The abdomen was not greatly distended, and although she had vomited several times during the day, she had passed gas and fecal matter. The region of the hernia seemed to be in a mild inflammatory state. It was tender, tense and hot, and she declared that it was more swollen than it had been. The tenderness of the patient precluded any palpation of the appendix, and there was no dullness to indicate a distended strangulated gut, and no gas sounds on auscultation to indicate any violent peristalsis in the region of the hernia. I still thought that the condition was one of appendicitis, possibly strangulated in the hernial sac. I thought of a possible ovarian tumor, with twisted



pedicle, of a volvulus behind an omental band, but in any case I diagnosticated a diffuse peritonitis in the right iliac region.

After the preparation of the patient and an operating room, with chloroform anesthesia the abdomen was opened by an incision an inch and a half long over McBurney's point and on the outer border of the right rectus. As soon as the peritoneum was opened a thin creamy pus poured out. The left index finger sought the appendix by following the parietal peritoneum to the right of the incision and at once discovered a thick indurated mass, probably the appendix, surrounded with a considerable abscess of thin pus. With small sponges this was carefully mopped out by the side of the guarding finger, and a large laparotomy sponge was so placed as to hold the intestines back and give access to the ileocolic fossa, in which the indurated mass was found. Before these manipulations were completed a tense band, about the size of the index finger, was discovered stretching immediately across the iliac region and firmly fixed in the internal ring. By manipulation over the hernia and tension, and torsion upon this band, a small omental hernia, the size of a walnut, was dislodged from the sac and brought into the wound. It was black, hard, and covered with fibrinous flakes and pus. The band itself, which was of attenuated and sclerotic omental tissue, was uninfected and apparently free from any inflammatory process. The band was ligated off from the general omentum, and the contents of the hernial sac cut away. The appendix was then brought into the wound, its mesentery ligated, and the stump of the appendix treated in the ordinary way. On account of the extensive peritonitis and the quantity of the effusion, three tampons were placed into the peritoneal cavity and three fossae adjoining the site of operation thoroughly drained. For this purpose one narrow, folded strip of iodoform gauze was used, draining the ileocecal fossa, and the pelvic fossa, into which the hernial sac opened. The ileocolic fossa was drained with a tampon of plain gauze, carefully covering the ileocecal juncture and filling the ileocecal space, in which a considerable quantity of pus had been found. The third tam-

pon of plain gauze was in the retrocecal fossa, carefully laid between the outer, or lateral, wall of the colon and the right abdominal wall. This was done because the head of the colon and the right, lateral, wall of the colon was covered with fibrinous flakes and bathed in pus, and I feared extension in the direction of the liver and diaphragm. The ends of these strips hung out of the wound for five or six inches. The protecting sponge had been removed during the course of the tamponade, and when all was thoroughly fixed in place the protecting finger was last of all withdrawn. The ends of the tampon were so disposed as to hold the short abdominal wound open.

It was a question with me whether to open the hernial sac by a second incision and drain it from above, or leave it to be drained by the pelvic tampon which covered its peritoneal opening. As subsequent events demonstrated I erred by letting it alone.

This operation required fifty minutes from the beginning of the anesthesia to the end of the dressing and the placing of the patient in bed. It required twenty minutes from the beginning of the incision to the application of the dressing. At the end of the operation the patient's temperature was 101° and her pulse 104. There was a rapid decline of temperature and pulse during the next few hours, and the temperature never rose again above 99°, though the pulse showed considerable fluctuation. Four days after the operation the evidence of infection in the hernial sac increased, and it was opened by Dr. Perisho and drained with a small iodoform gauze tampon. At the end of ten days all the tamponade had been removed, and at the end of two weeks there was a slight hemorrhage in the course of the dressing, probably due to the injury of some omental blood vessel by the removal and insertion of the tampon.

The interesting point in this case is the infection of the omental and partially strangulated hernia—from a rather distant appendicitis and periappendicular peritonitis without evidence of infection of the proximal portion of the omentum. This infection must have crept down on the omental peritoneum into the hernial sac, where it found a tissue of



diminished vital resistance, or it must have been carried into the sac through the parietal or through the omental lymphatics. In any case it is very suggestive of the danger which lurks in the cyanotic tissues of a hernia, a volvulus, an ovarian tumor, or other isolated tissue. It further calls attention to one of the almost innumerable sources of error in diagnosis of disease in this region.

## HOME SANATORIA

BY ETHAN A. GRAY, M. D., CHICAGO.

In order to emphasize the simplicity and feasibility of applying the fresh air idea in the treatment of pulmonary tuberculosis these notes and photographs are presented.

front three foot porch opened upon by windows of a second or third flat (no stairs), the roof of a large veranda and the barren back yard, furnished with a 6x6 floored tent.

Taking the first (Fig. 1): This shows in use the veranda roof above mentioned. The only covering or protection to this porch as far as the patient is concerned, is the tarpaulin hood, rough and home made, attached to the head of the cot. The cot itself is protected only by the rubber sheet which covers it. This is the outdoor home of a lady whose lung is apparently well and whose cough has disappeared entirely. A small cavity in the apex is demonstrable—dry and seemingly smaller than it was three years ago. She has slept out of doors constantly for two years, save when the cold or winter drove her in-



FIGURE 1.

Although the profession has accepted the correctness of the open air theory, many individual members hesitate to recommend the patient to "camp out." Much of the feeling of difficulty regarding the applicability of the home treatment of these cases can be removed when the physician learns how easy it is to avail himself of the resources at hand.

These photographs will show in use the back porch of the ordinary flat building, the

doors. At such seasons she betook herself to the Oji Valley of California, there continuing her open air mode of life until she could return East. Her case shows what can be accomplished.

In Fig. 2 we pass to different surroundings. The tent in a bare back yard speaks of but little comfort and of no luxury. Nevertheless, in this 6x6 tent, with a rough board floor, one of my patients has made his fight



FIGURE 2.



FIGURE 3.

against the progress of pulmonary tuberculosis. Such an arrangement is easy of accomplishment. The cost of the tent, cot and floor can come under ten dollars. An electric push button pinned to the side of the tent places the patient in touch with his family at all times. A bit of mosquito netting will be of value. When there is no shade to be had, a fly of black cambric or some such stuff will intercept the sun's rays in a great measure.

erected to protect against intrusion from the stairs. The canvas insures sufficient privacy.

The flat roof may be used as a home sanatorium—the conservatory of the better class houses is of great utility, the glass work affording almost a maximum of light and air.

Not only for the sake of ultimate results, but for symptomatic conditions, is this treatment of value. Cough has been allayed in a



FIGURE 4.

Fig. 3 shows a front porch in the third story of a frame house. It is three feet wide and eight feet long, having a three foot balustrade. This porch is capacious enough to accommodate a cot, or at least a good mattress. Canvas, nailed along the railing, affords privacy, or, better than that, wire screen, painted white, will answer the same purpose and admit much more air. It is an easy matter to rig a tarpaulin or rubber sheet for protection against rain and sun.

Fig. 4 depicts the back porch, third floor, of an ordinary flat building. The furnishing consists of a cot, a simple framework to carry the mosquito netting and canvas sheeting running on wires to act as wind breaks and sun shades. In the case of timid patients, a low (6 ft.) board partition with door may be

marked degree by the prolonged exposure to the effects of the open air. Fever, combined with anorexia, is often favorably influenced while the enlarging effect on the mental condition is certainly more favorable than the cautious tone of the closed room.

It is not necessary to urge the undeniable advantages of fresh air—these lines are merely intended to show what use can be made of the resources at hand.

11 Evanston avenue.

**Dr. E. A. Morgan**, for many years a prominent physician at Maroa and in more recent years a practitioner in Decatur, has announced that he will retire from practice because of his failing health.

**Dr. Julia Clark Strawn**, 4400 Ellis ave., has sailed for a trip through Ireland, Scotland, Germany, Austria, Italy, Turkey and Egypt, to be absent for four months.



# The Illinois Medical Journal.

The Official Organ of the State Medical Society.

OCTOBER, 1904.

NEXT ANNUAL SESSION, ROCK ISLAND, MAY 16, 17, 18, 1905.

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## DR. KOENIG RETIRES.

Dr. Adolph Koenig, founder of the Pennsylvania Medical Journal and for seven years its editor, owner and publisher, announces his retirement in the September issue of that Journal. In June, 1897, Dr. Koenig assumed the responsibility of publishing the transactions of the Medical Society of the State of Pennsylvania in Journal form and thereby became the pioneer in this field which has been followed, as our readers know, by a number of the larger state societies of the Union. Dr. Koenig's ability, unselfishness and modesty have been conspicuously shown in the columns of the Pennsylvania Medical Journal. Part of his remuneration for the publication of the Journal was to be

received from the advertising pages of the publication. Instead of using the columns for his own personal gain, Dr. Koenig has been unusually critical of the advertisements printed. He has been so straight that he has almost bent backward in his uprightness and he can well say that his Medical Journal representing the transactions of a great medical society has been as free from commercialism as the daily life of a physician actuated by the highest motives of humanity and no one can say that he encouraged the use of unethical remedies which tend to injure the sick and afflicted rather than benefit them. In bidding farewell to Dr. Koenig we believe we echo the sentiments of the best medical men of his and every other state in saying

that he will leave a shining example as editor which we hope will ever be maintained by his successors in the editorial chair.

#### IOWA PLAN OF MANAGING STATE INSTITUTIONS.

At our request Mr. L. G. Kinne, of the Iowa Board of Control has sent a report regarding the success of his Board in managing the public charities of that state. We commend its perusal to all our readers. The time has certainly come for some sort of a change in the management of the Illinois Institutions; just how this change shall be brought about we do not pretend to say but when this matter is taken up the Iowa plan should be thoroughly considered and if the results are at all equal to what is claimed for them by the members of that Board we should recommend a similar provision for the State of Illinois.

While on the subject of State Institutions it might be well to consider the necessity for another insane hospital. There are probably five thousand insane confined in county poor houses where the character of the attention at the best is much inferior to that provided in the State Institutions. In the county as an ordinary rule politics control the appointment of superintendent and attending physician to an even greater degree than in the State. Of course an exception must be made to this rule as regards Cook county where the strong agitation on the part of the Chicago Medical Society brought about a radical change at the time when matters had become about as bad as could be conceived. Unfortunately none of the other counties in the State has a population sufficiently large enough to warrant the construction of a special asylum for its insane inhabitants and it is in these counties that the greatest abuses now exist.

#### CLEAN MILK.

The State University of Illinois through the chief in Dairy Husbandry, Wilbur J. Fraser is doing a great work in agitating the subject of clean milk at the agricultural experiment station at Champaign.

Few cities in the State outside of Chicago are now supplied with milk of even decent character and the necessity for work of this sort is very apparent to every medical man in the State. Even in Chicago the percentage of absolutely pure milk as supplied to the inhabitants is very small. The circulars No. 73 and No. 78 issued by the University and profusely illustrated should result in a very short time in bringing about a radical change in the present conditions.

We would advise all our readers to send for these circulars and distribute them among their patrons and the dairymen in order that they may be no longer in ignorance of what is absolutely necessary for the production of a perfect dairy product.

#### THE SPECIAL TUBERCULOSIS EDITION.

As had been anticipated the Special Tuberculosis issue of the Illinois Medical Journal attracted wide-spread attention. Many of our readers have written us that this one issue was worth the price of the Journal for the entire year. Several features which we had anticipated putting in the September issue were not received in time and are issued with this number of the Journal. These are an article on the Out-door treatment of Consumption with cuts illustrating the methods of utilizing city yards and porches by Dr. E. A. Gray. We are indebted to the Chicago Medical Recorder for the use of the cuts illustrating this article. We also send out with this number a half tone portrait of Professor Robert Koch, the discoverer of the Tubercle bacillus and founder of the Science of Bac-

teriology; we are indebted for the use of this cut to Mr. George Thieme, publisher of the *Deutsche Medicinische Wochenschrift* of Leipzig, in which Journal the illustration was used recently on the occasion of Professor Koch's 60th birthday. We also publish a circular letter originating with Chairman Pettit of the Special Committee of our Society, purporting to come from the three large state medical societies of Illinois, announcing the appointment of 70 representative medical men of the three leading medical sects and of all parts of the State. All these parties have agreed to assist in the active work of the campaign against Tuberculosis. Chairman Pettit also reports that the tent colony is progressing satisfactorily. Thus far the results have been like those obtained in such institutions elsewhere. He is just completing arrangements for the housing of such patients as may not be able to live in tents during the winter. The accommodations will necessarily be limited to about 30 patients. The treatment will be continued through the Winter and every provision has been made for making patients perfectly comfortable.

The State Board of Health has issued a third revised edition of its circular entitled the Cause and Prevention of Consumption. This circular embraces 24 pages and cover, has five illustrations and discusses the subject under the different headings; Deaths from Consumption in Illinois, 1903 by ages; How the Sputum may be destroyed; How to avoid consumption; Symptoms of Consumption; If you have consumption; The hygiene of the sick room; Consumption in schools; A State Hospital for Consumption; Comparison of the climatic conditions and elevation of a town in Northern Illinois with those of Rutland, Mass., Saranac Lake, New York and Chestnut Hill, Philadelphia. This latter going to show that the conditions in Illi-

nois as regards minimum, maximum and average temperature, barometric pressure, per cent of sunshine, normal precipitation, altitude and character of soil is equal if not superior in this State to that prevailing in the East where institutions are maintained. The State Board of Health reports that there is unusual interest in the subject of Tuberculosis as shown by the rapid exhaustion of the circulars already issued by the Board, a great part of it due to the wide-spread agitation commenced at the annual meeting of the State Society and carried on since by the active Chairman of the Special Committee, Dr. J. W. Pettit, of Ottawa.

## Correspondence.

A MATTER FOR CONSIDERATION.

September 2, 1904.

Dr. Geo. N. Kreider, Editor,  
Springfield, Ill.

Dear sir, There is a little matter I think worthy of consideration at the hands of the various medical societies of the state, therefore I would be pleased to bring it to your attention, and through the Illinois Medical Journal to that of the hundreds of society members over the state.

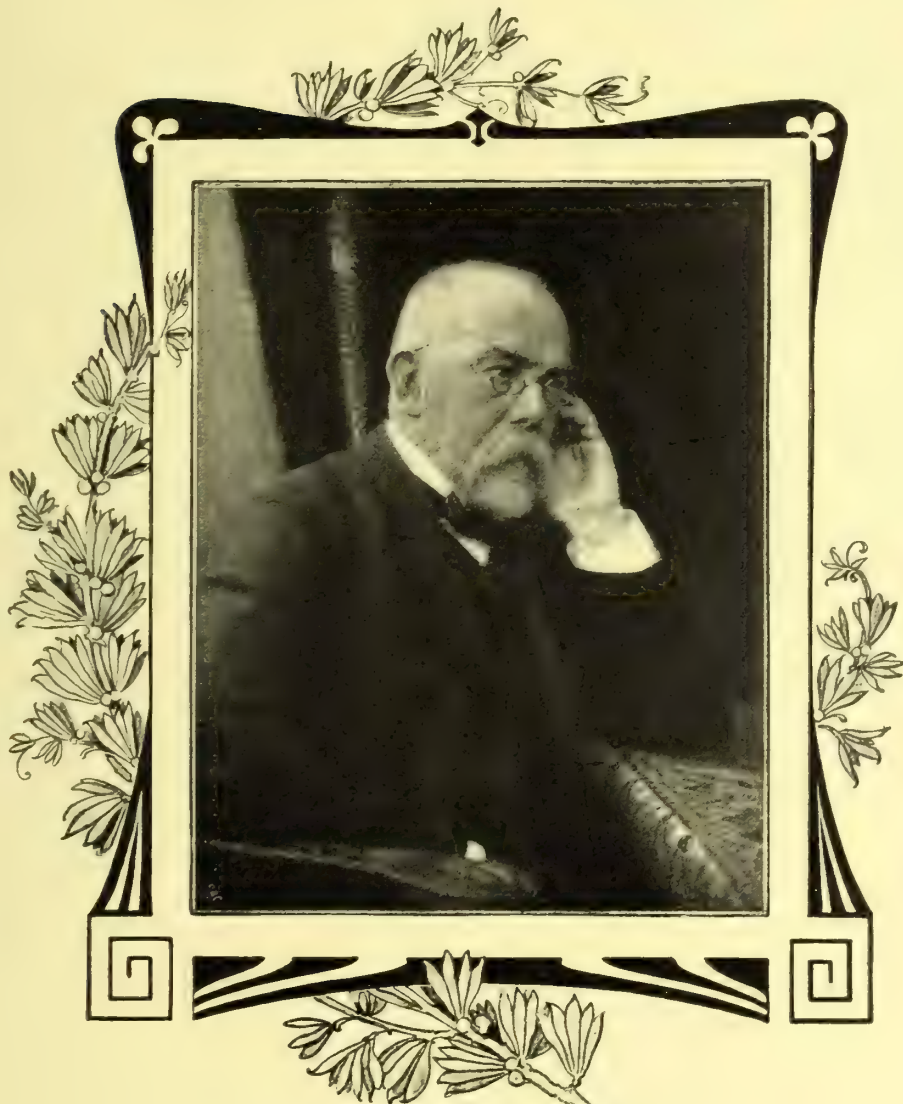
It should, I think be seriously considered by the County Societies, particularly, as here is where the matter would naturally have to be taken up in detail.

I refer to the question: WHETHER OR NOT, DOCTORS WHO ARE ELIGIBLE, BUT ARE NOT, AND WILL NOT BECOME MEMBERS OF THEIR RESPECTIVE COUNTY SOCIETIES, SHOULD BE ALLOWED TO HOLD POSITIONS OF TRUST AND HONOR BY APPOINTMENT, ETC., AS LOCAL EXAMINERS OF INSURANCE COMPANIES, LOCAL RAILROAD SURGEONS AND OTHER APPOINTMENTS OF SIMILAR CHARACTER.

If I may be allowed to do so I will quote my views on this subject as expressed in an article "The Benefits to be Derived from Organization and How to Derive Them," read



SUPPLEMENT TO  
ILLINOIS MEDICAL JOURNAL, OCTOBER 1904.



*R. Koch.*



before the Effingham County Medical Society, at its January meeting this year.

Referring to doctors who will not identify themselves with medical organizations, I at that time read in part as follows:

"It is almost unnecessary to say that such acts are done to attract the attention of the public to them, and they will try to make trading stock of it.

I desire to go on record here and at this time, as saying that no one in the county will work harder to have our society include and benefit every eligible doctor in this county than I, yet if any there be who stays out persistently for the reason above mentioned, or for other unethical or discourteous purposes, no one favors 'sitting down' on him more than do I. You may feel assured that if one of 'my families' or patrons move into your territory they will go there instructed to call on Dr. A, Dr. B (who are ethical society members), if they be desirable as patrons; and if you hear of my calling a consultant, if I have any governing voice in it, and I usually have, he will be a member of this or some other medical society. A doctor who is either too nice or too mean to associate with me in medical societies, is likewise too nice or too mean for me to associate myself with in my professional duties.

Another thing I want to advise for your consideration: Many doctors over the county are local examiners for insurance companies and fraternal insurance organizations, local railway surgeons, etc., all of which positions command some financial remuneration and respect, and carry with them some prestige. As long as these positions are in the hands of worthy men, I say amen to it, but if any of these favors have been bestowed upon unworthy men—upon those unethical, discourteous, wee bits of narrow fellows, who recognize no code of ethics, and who are avowed enemies to this, and through it, to other societies, and who oppose professional progressiveness and merit in men, then doctors I maintain that we should take steps to have them ousted. Let worthy men have these favors. Let us petition the proper medical directors of insurance companies and fraternal beneficiary organizations and the head

surgeons of the railroads requiring our attention, in the name and under the seal of our County Society, stating the facts and principles involved and demand recognition at their hands. Surely they will not knowingly identify themselves and their positions of trust and honor, with the class of men above referred to! This question seems to me to be a very timely and legitimate one for consideration all over the state. But a few months ago did I see the president of a county society and by far the best physician of several in his town, and a very liberal and ethical man turned down by an insurance company and an inferior in all respects, appointed in his stead. The appointee is a member of no society, a fighting enemy of all and has gained an unenviable reputation as regards ethics. So it is in perhaps hundreds of instances. I know of several men who are enemies to societies and professional progressiveness, who are local examiners for insurance companies or for beneficiary orders.

Now doctor in an appeal to you and to the profession of our state: Shall we stand for this? Shall we do nothing to right this insult to worthy men? After using all reasonable means to induce such men to be professional and to become members of their respective county societies, and through it, to those above it, and still they pull back, then shall we not rightly cut short their prestige, by relieving them of their appointive positions of trust and honor?

If so, shall the County Society take the question up first, aided by the influence of the State Society, if need be, or shall the State Society first take the matter up, upon the advice and consent of the respective County Societies? The public should be taught that medical organization is not a trust where we meet to agree on fees but that it is a scientific and social organization including the unselfish liberal progressive doctors of the county. A place where we meet with the needs of the sick foremost in our minds. Its members should be looked upon as the advanced element of the profession today, not only by the public but by some of the profession as well, and respected as such.

Let us in this way, put a premium upon



a membership in our affiliated societies. Many physicians do not see enough in a membership certificate to induce them to join. The questions of progressiveness and sociability perhaps do not appeal strongly enough to them. Many of these men are good men in their place, but they are in the wrong place. Then why not dilate upon the benefits to be derived by being a member of our County Society? Why not make State Reciprocity dependent upon a tried and true membership in the County, State and American Medical Associations. Surely if a doctor is competent to practice in Illinois he is in Indiana and if he is a tried and true society member here, worthy and progressive then let him cross the 'line,' so may we expect him to be there. But if he was an enemy to societies here, a pull back and a disgrace to the profession then do not let him disgrace two states, at least through the favors of state reciprocity.

Medical organization is right. It is an aid to the physician and likewise to his patients. We should have more members and more recognized rights and privileges for tried and true members.

I would be glad to have you bring this before the profession of the State through our State Journal; then that it will bring forth a free discussion on these subjects is my earnest desire.

Thanking you for your past favors I am,

Yours fraternally,

Dr. F. Buckmaster.

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#### DANGER FROM HANDLING COINS.

New Brownfield, Ill., Sept. 4, 1904.

Editor Illinois State Medical Journal,  
Springfield, Ill.

Dear sir. I am much pleased with the article on Tuberculosis by Dr. Mix and especially your editorial on "Public Teachers and Tuberculosis." I hope you will not consider me presumptuous in suggesting another item. That of persons, especially children, putting small coins in their mouths, no matter how many filthy (germ laden) pockets and hands the coin passes through before papa or mama gives it to the ordinary taught child it "pokes" it into its mouth more often than not.

I saw an "intelligent clean" man place a 50 cent silver piece into his mouth recently while he went down into his pockets for correct change.

I will not consume your time, simply make the suggestion.

Respectfully,

E. Peters.

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#### UNCINARIASIS IN THE HOG? WHO CAN TELL?

Pana, Ill., Aug. 1, 1904.

Dear Doctor:

I wish to inquire whether or not the hog is infested with the parasite *uncinaria duodenalis*? I will be very much obliged to you if you will give me any information bearing on the subject, either of a personal character or in pointing out to me where I may find any literature pertaining to the subject.

In Vol. 2, Series XIV, 1904, of the International Clinics, Professor Allen J. Smith, of Philadelphia, has an interesting article on "Uncinariasis" in which he says: "In addition to the two hook worms of man, a number of species infecting the lower animals, as *Uncinaria canis* of dogs, *Uncinaria stenocephala* of dogs, *Uncinaria trigonocephala* of sheep, *Uncinaria radiata* of cattle, *Uncinaria lucasi* of seals. All are parasites of importance in that they attach themselves to the intestinal mucus membrane, suck blood from the tissues of the host, and give rise to more or less severe anemia of the type of progressive pernicious anemia when fully developed?"

In reading this I was reminded of a circumstance which happened in my practice in 1875. I bought, Nov. 10th of that year, a bunch of young hogs (shoats) of a patron and the most of them turned up and died with the so-called, at that time, "hog-cholera." I held an autopsy on the carcasses of two of them and found the following conditions which greatly interested me at the time, viz., the pigs were greatly emaciated, tottered as they walked with head down and ears drooping, grunted with evident pain, refused food and drink, mucus membrane pale and anaemic. In opening the body I found in the small intestines a worm about as long and as large as the common intestinal worm

of children, firmly attached to the gut by their heads which were entirely buried in the mucous membrane. In catching hold of the worms attached to the gut I could lift a double loop of the intestines two or three yards long before the worm would become unattached from the bowel, and when it did let loose or when forcibly torn from the gut a hole was left in the bowel about  $\frac{1}{8}$  of an inch across. No blood, however, escaped from the hole thus made.

The specimen was shown to the Secretary of the Illinois State Board of Agriculture but he was unable to give me any information regarding the matter but requested me to write a description of what I had found for the Reports which the Board was preparing at the time, but I did not do it. I did, however, take the specimen back to Ann Arbor with me and placed the same in the hands of Prof. E. S. Dunster who presented them to the class and based a few remarks on "worms" in general as they are found in the human, and especially in children. He placed the specimen in the University Museum where I suppose it remains now.

I will be very grateful to you if you will cite me to any information on the subject, my interest being awakened by the above mentioned article of Prof. Smith. Thanking you in advance, I remain

Yours truly,

J. J. Conner, M. D.

#### A DISPENSER OF READYMADE PILLS AND TABLETS. OR A PHYSICIAN; WHICH?

"Good morning doctor, do you supply your own medicine? No? Well, we can put you in a position to increase your income with just a little outlay. When the patient wants more medicine, he has to come to you, instead of the drug store and *you* get the benefit instead of the druggist.

We are putting our goods in all over; all the best doctors have them; so if they do it behooves you to fall in with the procession." A conversation like the above often comes to the physician today. While an intimation that you "don't care to consider the proposition," only brings an insult from the glib tongued "traveling man" who represents

some "*Pharmaceutical*" house; and it is only by telling him in plain language that you are quite conversant with your own business and needs, that he condescends from advisor and instructor to petty salesman of a lot of "non secret" ready made, ready to be taken drugs for a *ready* diagnosis and in contradistinction to the so called secret drugs or preparations which are first advertised to the medical profession as purely ethical, until the gullible in our ranks create a demand for it, that is gladly filled by the humanitarian, who manufactures the nostrum.

A physician informed me recently that he "purchased fifty to sixty dollars worth of drugs (readymade) every two months from one "Pharmaceutical House." "Counter prescribing" is the hue and cry raised by the agent also the doctor who thinks he is not getting his quota of the five hundred people to attend professionally, when the division of the population of the state is apportioned pro-rata.

There are several reasons why doctors furnish their own drugs; we will not attempt to cover the whole subject in this short paper.

A. Can the prescriber furnish the patient just what he wishes to give in tablet, pill or readymade liquid form?

B. What effect does the slovenly cheap box or label on a bottle, with a *cheap* wormy short cork, have on the refined sensibility of the patient? (If there is one thing more than another that makes the writer feel sick in the region of the solar plexus, it is to have a patient produce a soiled cheap box partially filled with hard undissolvable tablets or bunch of sugar coated pills, stuck together like Ant eggs.) The effect on the patient if he has any sensibility must surely be nauseating.

C. What effect does this becoming a dealer of pills and too often proprietary nostrums, have on the dignity and professional pride of the physician himself?

D. Does it broaden his horizon as regards useful drugs recommended in articles he may read in books and journals, or does each patient get the same remedy in the same doses —A Cure All.

Go through the list of proprietary medi-

cines in the shops, a look at the old and even the newer prescription files would find that the *doctors themselves* were responsible for the knowledge percolated through the laity concerning the infallible cure alls. Every sample proprietary has a distinctive mark so that the patient can go to the drug store for the original bottle when the good natured doctor has given the sample to a patient, to do them a favor or to get out of writing a prescription.

There are many phases of this great burning subject and it should be discussed and cussed.

Almarin W. Baer, Ph. G., M. D.  
Chicago, Ill.

#### THE UNFAIR APOTHECARY.

"It is derogatory to professional character for a physician to prescribe or dispense a *secret nostrum*, whether it be the composition or exclusive property of himself or others. For if such a nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality and if mystery alone gives it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice." Code of Ethics.

There is nothing equivocal about the foregoing paragraph and it is because they lived up to its spirit of *non sibi, sed omnibus* that the world today honors the memory of such men as Jenner, Sydenham, Beaumont, Lister, Lawson Tait, Pasteur, Virchow, Marion Sims, Koch, Behring, O'Dwyer and many other heroes of Medicine and Surgery, while recalcitrants like the Chamberlens whose obstetrical forceps was used for several generations as a private emolument are justly forgotten by the world at large.

This being said "'tis a poor rule that doesn't work both ways," and if the reputable physicians of our country indorse this rule, why should not the pharmacist (our chiefest competitor) be made to subscribe to it also?

Let any physician spend a few minutes during the busy evening hours at his local apothecaries' and he will find a state of things that will prove a revelation to him.

He shall observe the liberal sale on demand of abortifacients, "rubber goods" and phallorrhagics, he shall see counter prescribing, prescriptions refilled on verbal request. Sales of hypnotics, intoxicants, narcotics and lethal drugs, not to mention that of a myriad of nostrums, many of which work incalculable mischief upon the credulous community, which because Gen. Brown, Gov. Jones or Senator Robinson consented (for a consideration) to endorse the merits of Smith's Malt Boozee or Wilson's Salary Compound or "Beeruna" the great cure for whatever ails you—Gladly guzzles the stuff in enormous quantities and what is worse pours it into its unprotected young, instilling a taste that only too often leads to intemperance with all its attendant evils.

A glance at the average apothecary shop of today shows a vast change from that of 30 or 40 years ago.

Then there were comparatively few nostrums or patent medicines on sale. "Stomach Bitters" led the van, made up like their modern congeners, of a quantity of vile whisky, an aromatic, a carminative and a flavoring agent, bottled and covered with a flashy label. Next came a variety of liver pills, a few vegetable cathartics and cures for rheumatism and finally the usual supply of crude drugs, toilet soaps, perfumes, sponges, etc., etc. This constituted the stock with which the apothecary of *ante-bellum* days did business. In other words he confined himself very nearly to the legitimate field of the pharmacist and did not have the presumption to invade the field of his best patron—the regular medical doctor.

Year by year however his armamentarium of nostrums kept growing, the exploiters of which through the lavish expenditure of money had succeeded in debauching the consciences of newspaper and periodical publishers, until the gullible public reading again and again the stories of marvellous cures and the open attacks on the incompetent medical profession gradually arrived at a belief in the specious lying of the advertisements. The apothecary finding it easier and more profitable to take sides with the



nostrum vendor, threw his considerable weight on that side of the scales with the result that the sleepy though conscientious, hard-working physician was sent sky-high to kick the beam or at best to eke out a hand-to-mouth existence while wondering at his crass stupidity in continuing to feed with prescriptions his chief competitor, that medical cormorant, the modern apothecary.

Now as a prophylactic and alterative for this intolerable state of things, I would suggest that the American Medical Association through its County Branches, take up this work of reform by appointing committees to confer with certain reputable apothecaries who will agree in consideration of receiving the patronage of the members of the Society, to discontinue counter prescribing, repeating prescriptions without authority, the sale of narcotics, hypnotics and lethal drugs on verbal order, who shall carry in stock a high grade quality of drugs and chemicals, who shall not substitute and who shall in fact conduct the business of an apothecary shop and not that of a general store or bazaar and above all not that of a physician *de facto*.

The Canadian Medical Association has taken up the crusade against the patent medicine whisky sellers by introducing a bill at Ottawa compelling vendors to publish the formula of each proprietary remedy offered for sale in that country.

In conclusion, I believe that members of the local societies together with other reputable if sectarian physicians, who write prescriptions, use surgical dressings and appliances germane to professional work have the cure of these growing evils in their own hands and that right *here and now* is the time to apply it. Otherwise if we do not act soon, it is only a question of a short time when we shall be forced to add an apothecaries stock to our office equipments, as they do in Great Britain or accept the alternative and retire from what is left of a dwindling practice. I for one am willing to give of my time and substance and to use what small influence I possess towards help-

ing establish a group of apothecaries who will "tote fair" with their chiefest patrons—the ethical doctors of medicine.

William D. Byrne, M. D., Chicago.

#### THE BOARD OF CONTROL OF IOWA.

DES MOINES, September 1, 1904.

Geo. N. Kreider,  
522 Capitol ave.,  
Springfield, Illinois.

My dear sir:

Your favor received and I note what you say about sending a copy of the journal containing information we desire. This will be greatly appreciated. I enclose you herewith a detailed statement of the origin with reference to the law and the work of this Board which was prepared some years ago for a committee appointed by the governor of Minnesota prior to the enactment of their law there. It is as appropriate today as then and as complete as it could be made now. Kindly read the same, copy it if you wish, and return to me at your early convenience.

The Board has been in existence since April, 1898, although it did not take charge of the institutions until July of that year. The results have been as indicated in the enclosed article. Politics has been absolutely eliminated from all the institutions, there is not a single political assessment permitted and none attempted anywhere, nobody is appointed or removed on account of politics, and every person is secure in his or her position regardless of politics or religion so long as he is competent and attends to his business. The system has given great satisfaction to the heads of the several institutions who find that they have far more power than they ever had under the old arrangement. The theory of the law is that this Board holds the chief executive officer accountable for the proper conduct of his institution in every respect. He is absolutely untrammelled in the selection of all his subordinates and in their removal when he deems such removal proper, and there is no appeal. The result is the personnel of the employes of every description is very greatly improved and the institutions are in that respect on about as high a plane as you could ever expect to get them. The

medical service is excellent, the care all that can be asked and the food, clothing, etc., better than it has ever been in the past.

Any other information you desire in addition to what is included in this article we shall be glad to give you.

Very truly yours,

BOARD OF CONTROL OF STATE INSTITUTIONS.

By L. G. Kinne.

Sir: In accordance with your request, I present some facts in relation to the organization, powers, and duties of this Board and the results attained in the practical operation of the law since this Board took charge of the institutions six years ago.

To fully understand what follows, I should state that prior to July 1, 1898, all of our State Institutions for the care of the dependent, defective, and delinquent classes were governed by boards of trustees, there being a separate board for each institution, except in case of the Industrial Schools where one board had charge of the school for boys and also that for girls. The penitentiaries were under the immediate supervision of the Governor of the state.

These boards of trustees were elected from time to time by the legislature, having been first selected by the caucus of the party in power. Usually a minority of the membership of these boards was made up from persons belonging to the party not in power. Generally one member of the board of trustees was selected from the town or city where the institution was located, the other members were selected from the state at large.

For many years various public men of the State had advocated a change in the system and the placing of all of the institutions under the control of one central board. The special session of the Twenty-Sixth General Assembly adopted the following resolution, providing for an investigation of State Institutions, viz.:

"First. Whether the persons holding positions or regents, trustees, or commissioners have faithfully accounted for all moneys of the state which have been drawn from the state treasurer, or have come into their hands otherwise, and whether the moneys drawn from the state treasury have been expended in accordance with law.

Second. Whether such persons have drawn money for service, per diem, mileage or expenses, or otherwise not authorized by law, or have authorized expenditures without authority of law.

Third. As to the manner in which all contracts, including those for the purchase of supplies, have been let, and to ascertain whether, or not the matters in charge of such officials are conducted in an economical and business-like manner.

Fourth. Whether the products of the institutions which are owned by the state are purchased, used, or consumed by the other state institutions and if not, the reason for such discrimination against such product.

Fifth. Whether the number of employees in the various state institutions is greater than is necessary for the proper conduct of its affairs, and whether the salary paid to such employees is greater or less than is paid for like services in private institutions of a similar character."

The period covered by the investigation extended from July 1, 1893, to January 1, 1897. The resolution directed the committee to report to the Twenty-Seventh General Assembly the result of such investigation with the testimony so taken, and to recommend if any change should be adopted in the government or management of such institutions.

A committee composed of two republicans and one democrat was appointed to make the investigation, which took several months to complete. Among other things it was found that no two institutions followed the same plan as to expenditures, or as to keeping their records. It was found that in many cases expenditures had been made which were not authorized by law; that in some cases bills for supplies were paid for without being audited by the board of trustees, or any of its members; that in some cases discrimination was made in favor of certain houses in the purchase of supplies; that supplies were often purchased without competition; that funds appropriated for a specific purpose had been used for other purposes; that at several institutions the system of bookkeeping was primitive and defective; that the trustees visited the institution only occasionally and gave little or no attention to the expenditure of funds; that superintendents of like institutions received different compensation for like service, and the same was true as to subordinate officials and employees. These and many other facts were elicited during the investigation.

The result was a recommendation for the establishment of a central board to control all of the institutions and this recommendation was given effect by the passage of what is commonly known as the Board of Control law.

It is my purpose in this paper to deal mainly with facts, leaving the reader to draw his own conclusions. A logical and natural arrangement of the subject suggests the following divisions:

First. The organization, powers, and duties of the Board.

Second. The system of financial accounting.

Third. The system of purchasing and disbursing supplies and of keeping account of the same.

Fourth. The gathering and preservation of statistical information.

Fifth. Other books required to be kept and reports which must be made.

Sixth. Other matters of interest.

### The Organization, Powers and Duties of the Board.

Chapter 118 of the Acts of the Twenty-Seventh General Assembly of Iowa provided for the appointment of a "Board of Control of State Institutions" to consist of three members, not more than two of whom should belong to the same political party, and no two of whom should, when appointed, reside in the same



congressional district. The term of appointment for the first Board was two, four and six years, and thereafter the term of office was to be six years. The Board is appointed by the Governor and must be confirmed by a two-thirds vote of the Senate. Each member is required to give a bond in the penalty of \$25,000. The salary is \$3,000 per annum and all necessary expenses incurred in the discharge of their duties. No member of this Board is eligible to any other executive office. The Board is at all times subject to investigation by the joint committee on "Retrenchment and Reform" of the legislature, also by experts appointed by the executive council. It is made a crime for any member of the Board, or any of its employees, and for any officer or employee of an institution to accept gifts from any one dealing with the institutions.

If any member of the Board, or any of its employees, or any officer or employee of an institution, exercises or attempts to exercise political influence on any officer or employee of the state, or if any such contribute money or any other thing of value for political purposes, they must be removed from their office or position. The law also makes the person who solicits a political contribution, guilty of a misdemeanor.

The Board appoints the chief executive officer of such institution and may remove him at its pleasure. The chief executive officer appoints all subordinate officers and employees and may remove them at his pleasure. It is made a crime for any member of the Board to suggest the appointment of any person under said executive officer.

We thus have in effect, civil service as to appointments to place in the institutions. The theory of the law is that the chief executive officer of the institution is responsible to the Board, and all of his subordinates are responsible to him. No influence, political or otherwise, can aid in securing the appointment or removal of an officer or employee of an institution. Capability and efficiency in service are the only tests and so long as the subordinate officer or employee of an institution can satisfy his chief in these respects, so long is he secure in his position. The effect of this system has been excellent. The efficiency of under officers and employees has improved in a marked degree, and the baneful influence of politics has been entirely eliminated. In other words, business principles have been applied in all the departments of institution service.

#### Powers.

The law clothes this Board with power to manage, control, and govern the following institutions:

- The Hospitals for the Insane.
- The Institution for Feeble Minded Children.
- The College for the Blind.
- The School for the Deaf.
- The Industrial Schools for Boys and Girls.
- The Soldiers' Home.
- The Soldiers' Orphans' Home.
- The Industrial Reformatory for Women.
- The Penitentiaries.

In all fourteen institutions are thus placed under the full control of the Board.

The Board is also directed to investigate the reports and doings of the regents of the State University and the trustees of the State Normal School, and the State College of Agriculture and Mechanic Arts, and to ascertain and report to the legislature whether these bodies have properly accounted for all moneys of the state which have come into their hands, whether they have drawn appropriations in accordance with law and so expended; whether such persons have drawn money for services per diem, mileage, expenses or otherwise not authorized bylaws or have authorized expenditures without authority of law.

The Board is also charged with the duty of the supervision of all private and county institutions wherein insane persons are kept. It is required to make rules and regulations touching the keeping of such persons, to investigate all such institutions, and in case they fail to comply with the rules it may remove the patients to the State Hospitals or to other county or private institutions, complying with the rules.

As to the institutions which are fully under the control of the Board, it has power to investigate their management and financial condition; to investigate questions of insanity of patients in State Hospitals; to determine when insane persons shall be admitted to State Hospitals as state charges; to divide the state into hospital and penitentiary districts.

#### Duties.

The Board was directed to prepare a statement showing the cost of operating the institutions for the preceding two years; to make biennial reports to the Governor and legislature; to visit all institutions once every six months, and hospitals by some of its members or its secretary once a month; to meet the superintendents quarterly in conference; to gather statistics; to publish a Bulletin; to compel the providing of fire protection and fire escapes; to require all employees handling the money or property of the state to give bond; to require certain officers to make an annual inventory of all the state's property at their institutions and to require a quarterly invoice of all stores and supplies; to annually fix the salaries of all officers and employees of the institutions except the chief executive officers. The legislature fixes the salary of the chief executive officer of each institution, and the Board annually fixes the salaries of all other officers or employees in them. To establish a uniform system of books and accounts and to require settlement with institution officers; to establish a dietary; to prepare biennial estimates of appropriations needed for the several institutions; to appoint a state architect who shall prepare all plans and estimates for new buildings and to make rules relating to the purchase of supplies.

#### The System of Financial Accounting.

The law enjoined upon the Board the duty of prescribing the forms of records, blanks, and accounts, and contemplated, so far as practica-



ble, that such books should be uniform in the several institutions. Under the old system there were about as many different systems of book-keeping—keeping financial account books as there were institutions. Now the financial accounts are kept in the same manner at all institutions and duplicate books are kept in the office of the Board. No individual accounts are kept. No day book proper is kept. The vouchers which are made in duplicate are kept, one copy at the institution and one copy in the office of the Board. These are bound and constitute the day book. We keep accounts with the State, with the Institutions, with all appropriations, general and special, and a separate account with each item of a special appropriation, and accounts under the classifications shown below, viz.:

1. Salaries and wages of officers and employees.
2. Provisions.
3. Household stores.
4. Clothing.
5. Fuel and light.
6. Hospital and medical supplies.
7. Shop, farm and garden supplies.
9. Library.
10. Water and ice.
11. Postage and stationery.
12. Transportation of inmates.
13. Miscellaneous expenses.
14. Contingent (Support) fund.

As to special appropriations:

1. Deficiency.
2. Extraordinary repairs.
4. Land.
5. New buildings.
6. Transportation.
7. Miscellaneous.

The accounts in the Journal are made up as follows: The debit side is charged with all appropriations, general or special; also with the amount which may be remitted from the institution on account of sales of products of farm or shops. The credit side is made up from the pay roll and vouchers. The debit shows the date and amount in each case of the appropriation, and the product sold and its value. The credit side accounts are extended to the credit of the institution or under the several classifications above stated. Every voucher number appears, so that ready reference is had to the voucher itself.

A separate set of books is kept for each institution. Monthly trial balances are made in the Board's office and a copy transmitted to each institution bookkeeper so that mistakes are easily discovered. With this trial balance is also sent a classification sheet showing how the several vouchers have been classified in this office, and the institution bookkeeper corrects any error he may have made in the classification of expenditures.

This simple system of bookkeeping has given great satisfaction, and the result is that the Journal entries of the largest institution we have, containing about twelve hundred persons, cover only eighty pages and fully represent the business of the institution for two and a half

years. The system is such that a mistake is well nigh impossible, and if made it is soon discovered and corrected.

### The System of Purchasing and Disbursing Supplies.

Anyone having had much to do with public institutions knows that one great point in their management is to stop leaks, thefts, and waste in supplies purchased. If supplies are purchased in the best and most economical way, and their disbursement is carefully looked after, much money will be saved to the tax payer, while at the same time the care afforded inmates is kept up to a high standard. This subject is very important and I shall consider it under the following sub-divisions:

1. Estimates;
2. Schedules for bids;
3. Schedules of bids;
4. Examination of schedules and samples by the chief executive officers;
5. Awards;
6. Receipt of goods at institution;
7. Pay rolls and vouchers;
8. Storekeeper and his duties.

### Estimates.

Everything purchased and paid for must be credited to the institution under some one of the classifications heretofore named. Nothing can be purchased for an institution unless it has been first estimated for and the estimate approved by this Board and the purchase ordered. The only exception to the above is that we keep in the hands of the head of each institution a fund not exceeding \$250.00, which may be used by him in emergencies specified in the statute, and for which no estimate need be made, but a report of the expenditures out of such fund must be made every month with reasons for such expenditures.

These estimates are arranged in accordance with the classification list of accounts. They show an item number running consecutively through that particular classification of the estimate. Each item shows what is wanted, the amount, kind, value per yard, or pound, or as the case may be, and the aggregate amount. These items are arranged also under subdivisions of the classification. After the estimates are finished (they are made in duplicate), they are sent to this Board and may be approved, rejected, or modified, as the Board may deem proper. When they reach the office of the Board they are passed by its secretary to the estimate clerk, and she examines them carefully, notes whether the descriptions are correct and definite, corrects errors in the extensions, footings and classification, and attaches a memoranda slip with notes for the information of the Board. They are then examined by the secretary and passed to the Board where they are examined, modified, disallowed, or approved, as the case may be. A memorandum of its action is made on a sheet attached to the estimate, and it is returned to the secretary who puts the notes of the Board in formal shape and returns one copy to the institution, retaining one copy in our office.

Supplemental estimates are sent up when articles have been overlooked, or where the supply is insufficient. Re-estimates are required when the article estimated for costs more than the amount originally estimated.

Estimate blanks for purchases to be paid for from the general support fund are printed in black ink; those for special appropriations in red ink; and those for Contingent (support) fund on blue paper. These are thus printed to facilitate the work and prevent errors in bookkeeping.

The estimates are sent in as a rule quarterly, and about two months before the beginning of the quarter for which they apply.

#### Schedules for Bids.

After the 10th day of November, February, May and August, respectively, when the estimates are all in, schedules are made up for each institution of all articles estimated for. These schedules embrace about one hundred different headings, and the articles are placed under the proper headings. The schedules are so arranged as to show the general item number, the estimate number, and the item number in the estimate, the article, quality, and measure. Places are left for the bidders to fill in the amount after each item. These schedules are footed for each institution. There is, for instance, one schedule for groceries, but all items of groceries for a single institution are under its heading. Bidders are thus enabled to bid on all articles in their line for one or more institutions as they see fit. Attached to these schedules are printed specifications, and dealers, wherever located, who have made known their desire to bid are furnished schedules.

#### Schedules of Bids.

When these bids have been received at the Board's office, they are carefully gone over for the correction of errors or mistakes in extensions or footings, and if such errors are found the bidder is notified. Then the bids are put on a schedule, showing the name of all bidders on groceries, for instance, the name of the article, the amount bid on it and the aggregate amount of the bid on groceries for that institution. Samples are required of hats and caps, findings, dry goods, clothing, groceries, salt fish, smoked meats, and many other articles. These are all properly arranged in rooms for examination.

#### Examination of Schedules and Samples by the Chief Executive Officers.

When the quarterly meeting with the superintendents is held and after it is over, the several superintendents take the schedules and examine the prices and the samples and make a memoranda of who in their judgment should be awarded the contract.

#### Awards.

Some superintendent and one or more members of the Board then make the awards. The successful bidder is notified, and the chief executive officer of the institution is furnished a list of the goods and the price bid on each

item. The Board fixes a maximum price on tea and coffee and awards on them are made after a test is made of the goods. The Board also fixes the character and quality of certain goods such as curled hair, rice, prunes, etc., for all institutions. No goods are shipped except on the order of the superintendent, and then direct to the institution.

#### Receipt of Goods at Institution.

When the goods are received at the institution they are checked in by the steward and storekeeper and are entered on the storekeeper's record, and he is required at any time to produce the goods or requisitions showing that they have been properly disbursed. When the goods are thus checked in, the steward makes duplicate vouchers for the same which are furnished to the sellers to be verified.

#### Pay Rolls and Vouchers.

An officer of the institution prepares a monthly statement or abstract of vouchers for the preceding month which are forwarded to the Board with the pay rolls of the institution. The pay roll is signed in advance by any person in the employ of the institution. The vouchers and pay rolls when received are passed to a clerk who examined them, sees that the extensions and computations are correct and all vouchers properly verified; he notes any irregularities for the consideration of the Board. They are then passed upon by the secretary and by him handed to the Board for approval. The Board if it finds errors or mistakes corrects them, and if any voucher be improperly verified it is returned for correction. Then the secretary prepares certificates in triplicate showing the name and postoffice address of each claimant, the amount due him, and the fund out of which it is payable. These are compared with the vouchers and institution certificate and are approved by the Board, and one copy is kept in this office, one copy is sent to the Auditor of State, and one to the Treasurer of State. The Auditor draws his warrant for the gross sum in favor of the Treasurer, and the latter issues his checks and mails same to the parties entitled thereto. The pay roll is paid in one check, made payable to the superintendent who pays the employees.

When the vouchers and pay rolls come before the Board the secretary attaches thereto a slip on which is shown in red ink the balances in the several funds out of which payments are to be made, to keep constantly before the Board the fact as to whether there is a sufficient balance in each fund to pay in full the pay roll and vouchers.

When a bidder has failed to furnish goods up to the standard required by the specifications, but they are healthful and needed for immediate use, the institution takes them, but makes a proper reduction in the amount of the voucher therefor from the contract price.

It will be observed that the Board of Control does not handle any money, and the several superintendents handle none except the \$250.00 support contingent fund, the amount of the pay roll which they disburse, and money re-



ceived from the sale of products of the farm or shops which they are required to remit monthly to the Treasurer of State.

#### **Storekeeper and His Duties.**

The storekeeper keeps a book on one side of which is entered all items received showing the invoice number, the date, the description of the item, amount, cost per yard, pound, etc., and the total cost. On the other side he shows all disbursements, also the number of the invoice, date, article, amount, cost per yard, pound, etc., and aggregate cost, and shows to what particular department the article went. Separate account is kept of all principal articles, and by footing the pages "received" and "disbursed" of any article, at any time he can tell just what he should have in stock. At the close of every quarter he must take an inventory of all stock on hand, and if the same does not agree with his books it is apparent there is an error which must be rectified. Twice a year an expert accountant is sent from the Board's office to check up all storekeepers. He invoices the stock, reports shortages or surpluses, if any. If there is a shortage, it must be satisfactorily accounted for to the Board, else the storekeeper must make it good. He lets nothing go without a requisition properly signed by the chief executive officer. These requisitions constitute his vouchers and entitle him to credit. One copy of every requisition is sent to the office of the Board where it is entered on the storekeeper's record for that institution in our office. It is to be remembered that all financial, storekeepers' and statistical books are kept in duplicate, one copy of each being in the Board's office. We get the items of debit for the storekeepers' records kept in our office from the vouchers, and the items of credit from the duplicate requisitions. We are thus enabled to keep constant tab on the storekeeper. He alone has the key to the store-room and is responsible for any goods not properly accounted for.

#### **The Gathering and Preservation of Statistical Information.**

At each institution is kept a statistical record which contains the name of every inmate, the date of their admission, their residence, and a multitude of facts relating to their history and that of their family. This book is so arranged as to show the subsequent history of the person while in the institution and his death, parole, release, discharge, as the case may be. Appropriate blanks corresponding to these books are furnished the institution and upon these all the information is conveyed to the Board when it is from time to time entered in a like record kept in the office of the Board. These statistical books and blanks are alike for the same kind of institutions. We thus have a reasonably full history in our office of every inmate in a state institution under the control of this Board.

#### **Other Books Required to be Kept and Reports Which Must be Made.**

At each institution a book is required to be kept which is called a "Complaint Record." In

it all complaints made by inmates, officers, or outsiders touching the management of the institution must be entered, with the action taken thereon by the chief executive officer. Monthly reports of these cases are made to this Board. At the hospitals for the insane and the penitentiaries there is required to be kept what is called a "Mechanical Restraint Record," wherein must be entered a memoranda of each case where restraint has been applied, the character of the restraint, the duration, cause thereof, and its effect.

At the Penitentiaries and Industrial Schools records are required to be kept of all cases of punishment by means of mechanical restraint or otherwise for infractions of the rules. In all the above cases monthly reports must be made to the Board upon blanks provided for that purpose. From time to time each institution must report its dietary in detail; showing number of persons fed, quantity of every article used, cost of same, and list per capita per meal, per day and per week. Every quarter each institution must report the condition of fire escapes and fire apparatus, showing the result of tests made by fire apparatus and wherein same is defective.

#### **Other Matters of Interest.**

All books and blanks used at the various institutions in carrying out the system adopted are furnished through the Board and the cost apportioned to the several institutions; in this way only can uniformity be secured.

No new building or improvement can be erected or made which is to cost over \$300.00, except on competitive bids.

The Board appoints an architect who receives a salary of \$3,000.00 and railroad fare, and who is required to prepare plans and estimates for all new buildings and improvements and looks after the construction of the work. Plans are prepared by him for all proposed new buildings for which appropriations are to be asked from the legislature, also estimates for their cost. These are laid before the proper committees for consideration. Formerly the legislature was besieged by all the superintendents, and many of the trustees of the institutions who formed a formidable lobby for appropriations. Now the needs of the institution are presented by the Board and the superintendents devote their time to attending to their respective institution duties.

The chief executive officer of each institution, except the wardens of the penitentiaries and the commandant of the Soldiers' Home, draws food supplies for himself and all members of his family under twenty-one years of age from the institution stores, and he is not permitted to purchase with state funds any articles of food not bought for inmates.

In supplies we buy the best flour and meats obtainable. Fresh beef must be from native steers weighing when dressed from 600 to 800 pounds each. Great care is taken to have all goods of good quality, and the chief executive officer is made the sole judge as to whether articles furnished comply in all respects with the specifications.



Fire companies are organized and drilled at several of the institutions. All officers and employees having the custody of state property are required to give bond. All officers and employees except the chief executive and except those employed on the farms or in shops are required to be uniformed. This conduces greatly to discipline and indicates at once to the stranger those who are clothed with authority.

Semi-annual visits are made by the entire Board to all institutions, and some member of the Board visits the hospitals every month. Thus by visitation, by reports, by checks, by daily correspondence does the Board keep in touch with the affairs at the several institutions. It is the policy of the Board to promote capable and efficient officers to the positions of chief executive officers as vacancies may occur.

#### Results.

This system of control has now been in operation for more than two and a half years and has proven very satisfactory. It has resulted in paying women nurses and attendants the same wages as men receive for like service; in improving the character of the service; in bettering the condition of the institutions; in elevating the standard of care afforded to inmates. All this has been accomplished notwithstanding the fact that the legislature, just before we took up the work, reduced the per

capita allowances for support of inmates in the aggregate sum of \$100,000 per year, and the further fact that nearly all of the time since the law has been in operation the market price of many commodities has been steadily advancing. Over \$100,000.00 which the Board might have drawn for support of inmates remains in the state treasury unexpended.

In his last report, the Treasurer of State computes the decrease in cost of operating the institutions under the control of this Board during the first year, as compared with the cost of the previous year "under the trustee system at \$379,490.73, or 26 and nine-tenths per cent." \* \* \* \* "This saving, it is fair to presume, was not the result of unwise economies that were detrimental to the institutions. The character of the members of the Board of Control is a sufficient guaranty that such was not the case. They have been the fruits of the application of business principles and methods in the conduct of the fourteen institutions under the Board."

In the last sentence the Treasurer has struck the key note as to how this Board has been able to make such a large saving to the state, and at the same time improve the conditions at the institutions.

Respectfully,

L. G. KINNE, Chairman,

Board of Control of State Institutions of Iowa.

## CIRCULAR LETTER APPOINTING A COMMITTEE ON PROMOTION OF NON-MEDICAL CITIZENS.

The Illinois State Medical Society.

The Illinois State Homeopathic Society.

The Illinois State Eclectic Medical Society.

Chicago, Ill., Sept. 17, 1904.

Mr. ....

Dear Sir:—Your attention is invited to the fact that during the year 1903 about 7,000 persons died of pulmonary tuberculosis in the State of Illinois, and about half of that number in Chicago, alone. This may be regarded as a fair indication of the general prevalence and fatality of the disease.

It means an annual loss to our state of \$36,000,000.00 to say nothing of the attending suffering and sorrow.

A large proportion of these lives can be saved by the early recognition of the disease and the prompt placing of its subjects under proper hygienic conditions in "Tuberculosis Camps" within the borders of our own state.

Knowledge of these and of many related facts, had led the united medical profession, without regard to the school of practice, into a movement to secure the establishment and maintenance of such camps by the state for the benefit primarily, of the poor afflicted with the disease, and secondarily, for the protection of the community against its spread.

These methods have the earnest approval of the medical profession of the entire world and are already in successful operation on the continent of Europe and in some of the states of our own country.

Such a camp has recently been established near Ottawa, Illinois, under the administration of Dr. J. W. Pettit of that city, neither for profit nor as a charity, but on as nearly a self-supporting basis as possible,—all medical services being gratuitous, in order to demonstrate the primary fact that tuberculosis can be cured in our own climate.

There is not the least expectation that the enterprise will be wholly self-supporting, but sufficient financial backing has already been pledged by a few philanthropic citizens who are familiar with the facts and are bent on furnishing an object lesson to the people of the state.

The movement to be successful must be made to interest citizens of all classes. The medical profession may have nothing to do with it beyond furnishing gratuitous services. It must be popular. The first step, after the organization of necessary committees, must be the education of the people.

In the furtherance of the general plan, the physicians of the state are ready to furnish newspaper articles, lectures before Chautauqua assemblies, teachers institutes, and other gatherings of enlightened people, and to render any other services that may be required of them, without pay or recognition of any kind beyond the bare travelling and hotel expenses of the lecturers.

It is estimated that such a campaign of popular education and the other steps leading to a

powerfully supported application to the legislature for an appropriation that will establish our state on terms of equality with the most progressive states of the union in the protection of the health and lives of its citizens, can be effectively conducted for less than five thousand dollars.

The undersigned constitute a committee, authorized by the medical organization of the state to organize a committee on Promotion of non-medical citizens who will solicit and administer the funds needed for the accomplishment of the purposes herein set forth.

Will you allow the use of your name in that connection?

Answers may be addressed to any of the undersigned.

Dr. J. W. Pettit, Ottawa, Ill.  
 Dr. Wm. E. Quine, 103 State st., Chicago.  
 Dr. Harold N. Moyer, 103 State st., Chicago.  
 Dr. Anson L. Clark, Elgin, Ill.  
 Dr. N. A. Graves, 126 State st., Chicago.  
 Dr. C. L. Mix, 103 State st., Chicago.  
 Dr. J. R. Kippax, 3154 Indiana ave., Chicago.  
 Dr. Chas. Adams, 500 Reliance Bldg., Chicago.  
 Dr. Chas. Gatchell, 100 State st., Chicago.  
 Dr. Frank Billings, 100 State st., Chicago.  
 Dr. John B. Murphy, 100 State st., Chicago.  
 Dr. W. Harrison Hipp, 4446 State st., Chicago.  
 Dr. John B. Matthew, Blue Mound.  
 Dr. Henry B. Favill, 100 State st., Chicago.  
 Dr. Homer Thomas, Marshall Field Bldg., Chicago.  
 Dr. N. B. Delamater, Marshall Field Bldg., Chicago.  
 Dr. H. V. Halbert, 70 State st., Chicago.  
 Dr. E. Fletcher Ingals, 34 Washington st., Chicago.  
 Dr. James B. Herrick, 103 State st., Chicago.  
 Dr. H. C. Bragdon, 1709 Chicago ave., Evanston, Ill.  
 Dr. Julia Holmes Smith, 100 State st., Chicago.  
 Dr. J. P. Cobb, 254 E. 47th st., Chicago.  
 Dr. George W. Webster, 70 State st., Chicago.  
 Dr. N. S. Davis, 65 Randolph st., Chicago.  
 Dr. L. L. McArthur, 100 State st., Chicago.  
 Dr. S. P. Hedges, 890 Evanston ave., Chicago.  
 Dr. O. B. Blackman, Dixon, Ill.  
 Dr. E. H. Reading, 3748 Langley ave., Chicago.  
 Dr. M. L. Goodkind, 103 State st., Chicago.  
 Dr. L. E. Frankenthal, 109 Randolph st., Chicago.  
 Dr. H. N. Bascom, Ottawa, Ill.  
 Dr. W. P. Armstrong, Springfield.  
 Dr. Henry Wohlgenuth, Springfield.  
 Dr. Nathan Starr, Charleston.  
 Dr. F. Whitman, Elgin.  
 Dr. W. E. Taylor, Watertown.  
 Dr. A. J. Ochsner, 710 Sedgwick st., Chicago.  
 Dr. E. F. Wells, 4571 Lake st., Chicago.  
 Dr. George R. Schafer, Peoria.  
 Dr. J. F. Percy, Galesburg.  
 Dr. A. M. Beal, Moline.  
 Dr. M. S. Marcy, Peoria.  
 Dr. J. W. Coyner, Peoria.  
 Dr. W. E. Neiberger, Bloomington.  
 Dr. G. N. Kreider, Springfield.

Dr. C. E. Black, Jacksonville.  
 Dr. E. J. Brown, Decatur.  
 Dr. A. A. Bondurant, Cairo.  
 Dr. C. E. Colwell, Aurora.  
 Dr. J. T. McAnally, Carbondale.  
 Dr. E. Mammen, Bloomington.  
 Dr. M. H. Goodrich, Jacksonville.  
 Dr. Grant Houston, Joliet.  
 Dr. E. B. Montgomery, Quincy.  
 Dr. C. B. Johnson, Champaign.  
 Dr. F. W. Gordon, Sterling.  
 Dr. E. A. Perrigo, Danville.  
 Dr. F. H. Jenks, Aurora.  
 Dr. C. C. Hunt, Dixon.  
 Dr. J. J. Stealey, Freeport.  
 Dr. W. F. Spencer, Geneseo.  
 Dr. T. L. Lowrie, Lincoln.  
 Dr. E. A. McDowell, Rockford.  
 Dr. W. R. McKenzie, Chester.  
 Dr. J. S. Adsit, Hoopeston.  
 Dr. J. B. Dunham, Wenona.  
 Dr. J. A. Marshall, Pontiac.  
 Dr. W. E. Kennicutt, Yorkville.

#### SOUTH WESTERN SECTION OF THE CHICAGO MEDICAL SOCIETY.

Regular meetings are held monthly at 540 W. 63d st. Membership—.

##### Officers.

President.....F. L. Rose, 5420 S. Halsted st  
 Vice President.....Wier  
 Secretary-Treasurer..C. H. Lovewell, 5500 S. Halsted st.  
 Official Reporter, T. C. McGonagle..5504 S. Halsted

The South Western Section of the Chicago Medical Society held its 47th regular meeting September 6th, at the Grace Cafe, 540 W. 63rd st. This being the Annual meeting there was no paper to read and the society proceeded to the regular business of the society.

Reports read by the President were discussed and adopted.

The society's report showed the society to have gained in membership and in average attendance over the preceding year, also that our finances were to the good.

The Organization Committee, through its Chairman, Dr. F. R. Green, reported our Section to be the best organized section in the county. The election of officers was next taken up and after several tie ballots between Drs. Rose and Wier for president, it was found necessary to draw, the one drawing the long straw to be president, and the other vice-president. This resulted in Dr. Rose getting the long end of the draw.

Dr. C. Hubart Lovewell was reelected Secretary-Treasurer and Thos. McConagle was elected Official Reporter. It is our determination to out do any previous year and already plans are well under way for our years work.

Thos. C. McGonagle.

Dr. and Mrs. James Nevins Hyde are in Berlin at present, but will sail to reach Chicago on October 1.

Dr. Eugene F. McLaughlin has been sued by Miss Edna VanDreal for \$30,000 for alleged breach of promise.



## County and District Societies.

### HENRY COUNTY MEDICAL SOCIETY.

Annual meetings are held at Cambridge the first Tuesday of September. Membership 20.

#### Officers.

President.....L. A. Ferry, Geneseo  
Vice-President.....W. H. Cole, Kewanee  
Secretary.....H. W. Waterous, Galva  
Treasurer.....J. A. Kirkland, Cambridge

The Society held its regular meeting Sept. 6th, at which there were present: Drs. Ferry Carman, Young Gilbert, Ringnell, Gustafson, Westerlund, Cole, Hall, Waterous and Dr. O. B. Will, Councilor of the district.

The morning session was devoted to hearing the reports of officers and committees. Election of officers and remarks by those present as to how the membership and attendance might be increased.

All the old officers were re-elected.

At the afternoon session, Dr. Will gave an interesting talk upon "Medical Organization," its necessity and purposes. This was followed by a paper upon "Typhoid Fever" by Dr. Cole, one by Dr. Gilbert upon "Ice Cream Poisoning" and a talk by Dr. Ringnell upon the proceedings of the last meeting of the Illinois State Medical Society and some observations made during a visit to the Consumptive Colony at Ottawa.

The meeting was a very successful one, much interest being shown and the program as printed, carried out in every particular.

### CHAMPAIGN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Champaign at the Hotel Beardsley the third Thursday of each month. Membership 60.

#### Officers.

President.....S. S. Salisbury, Champaign  
Vice-President.....W. L. Gray, Champaign  
Secretary and Treasurer.....Jas. S. Mason, Rantoul  
Censors.....C. H. Spears, H. E. Cushing,  
Champaign, and J. A. Hoffman, Pesotum.

The regular meeting of the Champaign Medical Society was called to order at 2:30 P. M. with the following members present: Salisbury, Matheny, C. P. Hoffman, Johnson, Kariher, T. J. Exton, W. M. Honn, Wall, Dodds, Miner, Lyon, McKinney, Burres, Foelsch, Newcomb, Cushing, Rudy, Mason. Visitors—Dr. Lucy Exton, of Thomasboro and Dr. A. L. Zorger, of Champaign. Minutes of previous meeting were laid over till next meeting.

The subject of Interstitial Nephritis was ably presented by Dr. T. L. McKinney, of Gifford. After giving the Etiology of the disease attention was directed to the progressive character of its pathology, finally leading to a two-thirds destruction of the Malpighian tufts and Uriniferous tubules.

Symptoms were discussed under three heads. 1st: The stage of tension. 2nd: That of hypertrophy. 3d: Dilation. Stress was laid upon the need of early recognition of the symp-

toms of this disease and correction of the habits of eating, exercise, dress, etc., enjoined. Since it is only in the early stages of that effective measure and treatment can be instituted.

The frequent failure of Chemical analysis alone to reveal the kidney lesion was noted and the need of the microscope pointed out.

The importance of the subject called out a spirited discussion. Dr. Johnson narrated a case and dwelt upon the insidiousness of the onset of these cases. Dr. Dodds called attention to a difficulty encountered in these cases when they are recognized early of getting the patient to carry out the needed instructions; since they at this stage do not count themselves sufficiently indisposed to need such radical measures. Dr. Wall discussed the surgical treatment of these cases, referring to the work and statistics of Edebohls in this field and expressed the opinion that surgery, while it may offer something definite in the future in the handling of these cases, is as yet a doubtful procedure.

Dr. Mason questioned the too full use of water in these cases, which phase of the subject was further discussed by Dr. Miner and Dr. Wall. In closing the discussion Dr. McKinney held the view that a study of the resulting pathology of operation on the kidney capsule for relief in these cases condemns surgical measure as being hurtful in the final outcome.

The society was honored by the presence of Dr. Anna Fullerton, who read a paper entitled, "Medical Experience in India." The announcement of this subject attracted a number of the laity to the meeting, who with the members of the society listened to one of the most enjoyable and instructive addresses in the society's history. After a general discussion the society tendered Dr. Fullerton a rising vote of thanks.

The following amendment to the constitution and by-laws of the society was adopted: Amendment to Art. I, Sec. 1. Every candidate for membership shall be proposed in writing giving name of college, place and date of graduation and number of years in regular practice and be recommended by two members of the society.

Meeting adjourned.

### SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held in Springfield the second Monday of each month at 8 p. m.  
Membership 75.

#### Officers.

President.....B. B. Griffith, Springfield  
Vice President.....S. E. Munson, Springfield  
Secretary-Treasurer.....C. P. Colby, Springfield  
Directors, W. O. Langdon, R. D. Berry, C. R. Spicer

The Society held its regular monthly meeting, Monday evening, September 12th, in the new Library building. Meeting called to order



at 8:30 P. M. by President B. B. Griffith; there were fifteen members and two visitors present. Minutes of last meeting read and approved. The applications for membership of Drs. F. L. Perkins, Gordon W. Rice, Maurice Altman and O. H. Deichmann were read and handed to the Board of Directors to take the regular course. Bills for \$7.05 were read and ordered paid. The Secretary read a letter from Secretary Weis, of the State Society, in which he stated the Society had been assessed for seventy-five members. The Secretary stated the Society would probably be able to pay the full assessment. Secretary Egan's letter explaining the new Pathological and Bacteriological Laboratory was read. Secretary was instructed to acknowledge Dr. Egan's letter and to express the appreciation of the Society. Secretary was also instructed to extend the sympathy of the Society to Dr. Bowcock.

The following paper prepared by Dr. C. M. Bowcock was read:

#### Vomiting of Pregnancy and the Use of Chloretone.

The persistent and intractable vomiting of pregnancy, seen all too frequently, is perhaps the most distressing condition met with by the practitioner of medicine. It has been responsible for the termination of the life of the unborn child in a vast number of cases and has not infrequently proved fatal to the mother. Therefore, when any remedial agent can be demonstrated to have a decidedly beneficial effect in such a condition, it is quite proper to call it to the attention of the profession.

I have tried many times to get some effect from the usually prescribed remedies for vomiting of pregnancy, such as Cerium oxalate, Bismuth subnitrate, Calomel and all the rest of them, but without any appreciable permanent effect.

Recently I have been using Chloretone with excellent results in vomiting and sick stomach due to taking an anesthetic and concluded to try it for the relief of vomiting of pregnancy, and shortly afterward I had an opportunity to test its efficacy in two cases whose histories follow.

Case 1. Mrs. A. E., Age 24 years. Domestic. Pregnant three months. Admitted to hospital Dec. 10th, 1903, in an extremely weak condition due to continuous vomiting. Temp. 97, pulse 68. Patient put to bed. Extreme nausea and vomiting. Urine negative.

Dec. 11th, patient remained in bed, condition the same as when admitted. Tem. 98, pulse 96. Cup of beef tea not retained. Gave chopped ice frequently.

Dec. 12th, gave 2 oz. milk, but it was immediately vomited in a curdled condition. When patient was admitted to hospital, Dec. 10th, had not been able to retain nourishment for fully six weeks and was continuously nauseated and would vomit on taking any nourishment.

Dec. 10th, 1903, mustard drafts over stomach, liquid diet, Bismuth subnitrate, 30 grs., every four hours. Bowels moved freely after using Calalactose followed with Salts.

Dec. 11th, same treatment continued.

Dec. 12th, Hyd. Chlor. Mite, grs. 1-16, every half hour. Rest of treatment the same except Calalactose. Gave Chloretone, grs. 5, night and morning. Liquid diet continued.

Dec. 13th, Chloretone continued as before and continued cracked ice. Patient vomited but once toward morning, and slept well.

Dec. 14th, rested well all night; complained of headaches. Bowels constipated. Ordered high enema of soap and water suds which returned followed by very offensive defecation. From this time on bowels acted freely each day. Chloretone, 5 grs., night and morning continued. Free from headaches and vomiting ceased. Remained in bed all day.

Dec. 15th, ordered light diet; patient sat up all day and says she feels well. Nourishment retained and not nauseated. Rested well all night.

Dec. 16th-17th, continued Chloretone, 5 grs., night and morning and light diet.

Dec. 18th-19th-20th, continued Chloretone, 5 grs., night and morning and full diet.

Dec. 20th, patient left hospital fully relieved. Pulse 84, Temp. 98.

This is a very brief report of this case but the result of the treatment with Chloretone, 5 grs., night and morning, was marvelous, considering the short time, in relieving this patient who had been suffering from extreme nausea and vomiting for six weeks and leaving the hospital in ten days entirely relieved.

Case 2. Mrs. S. S., Age 27 years. Housewife. I was called to see this patient Dec. 11th, 1903, and found her in the second month of pregnancy. She was very much emaciated and unable to raise her head from the pillow without vomiting. This was the most aggravated case of vomiting I had seen in 22 years of practice. The patient was unable to take any nourishment or liquid without vomiting. She was very constipated, never having an action from the bowels without previous large enemas. Temperature generally sub-normal, pulse from 56 to 60. Unable to sleep day or night, except for short intervals and on awakening would vomit. Her skin and eyes were very yellow. I put patient on the usual remedies for vomiting of pregnancy; Oxalate of Cerium, Bismuth subnitrate, etc., Ingluvin, 1-16 gr. doses of Calomel. All these without effect. I continued this treatment with large enemas for bowels for several days, but the vomiting did not diminish in the least.

Dec. 15th, I gave 5-grain doses of Chloretone, and liquid diet and continued the enemas—no improvement except slight action from bowels. This treatment I continued for three days with no improvement. Until this time patient had not been able to sleep night or day, only occasional short naps. At this time I was considering the advisability of bringing on premature labor, fearing my patient would die.

Dec. 21st, 1903, I gave Chloretone, 10 grs., before taking liquid nourishment, and to my satisfaction she retained the food. I now gave high enemas of 8 oz. hot glycerine, with good result. I kept the bowels open each day with enemas and gave nourishment altogether by rectum for several days. Patient could obtain

sleep by taking Chloretone, 10 grs., at bed-time. In addition to Chloretone I gave chopped ice and champagne. The examination of urine, Dec. 26th, 1903, showed quite an amount of albumen. Re-examined urine several times afterward with negative findings. During the month of December the nourishment was entirely by rectum.

Jan. 10th, 1904, I renewed liquid diet by mouth which was retained by giving 10 grs. of Chloretone a half-hour before nourishment, which would be retained. I still continued nourishment by rectum every three hours in small quantities. To produce sleep I gave Chloretone, 10 grs., at bed-time. About the middle of January, 1904, patient was taking small amount liquid diet by mouth every four hours and retaining it.

Feb. 2nd, commenced light diet, patient would vomit only two or three times in 24 hours, when before the institution of the Chloretone treatment she was vomiting almost continuously.

Feb. 10th, I reduced Chloretone to 10 grs. twice daily, on awakening and at bed-time. This patient, while not wholly relieved, would now vomit but once a day. During the latter part of February to March 7th, she was able to take light diet without vomiting at all. Soon patient was up and around her room, gaining very much in strength and weight. On my visit March 13th, patient was taking liberal diet and able to go up and down stairs and all around the house. At this time I discharged the patient as fully recovered, and give the whole credit to Chloretone.

Shortly after this time I was called out of the city, being absent for some time and during my absence the patient required some attention and her attending physician produced premature labor, for what cause I do not know. Two days after this operation she died.

Chloretone (C<sub>4</sub> H<sub>7</sub> O Cl) is a derivative of chloroform and acetone. It is a white crystalline, volatile compound, having a camphoraceous odor and taste. Warm water dissolves it to the extent of about 1 per cent; on cooling, a portion of the Chloretone crystallizes out, leaving about .8 of one per cent in solution. It is soluble in oils, glycerine etc., and very soluble in alcohol, ether, benzine, acetic acid, chloroform, acetone, etc. Chloretone is a permanent chemical compound, unaffected by heat or light. Even under the action of the gastric and intestinal secretions the molecular constitution is not destroyed.

It is claimed that the vomiting of pregnancy is due to increased irritability of the gastric sensory nerves with co-incident overstimulation of the nerve filaments in the gastric center; If this is true then Chloretone meets the conditions admirably since:

The main action of Chloretone is confined to the central nervous system, it being essentially the same as that of the other anesthetics and hypnotics of the fatty acid series, differing from most of the members of this group in not depressing the circulatory system.

Internally administered, it passes unchanged into the circulation; but "that it is decomposed within the body appears from the fact

that, volatile as it is, we do not find it in the expired air, nor has it been positively recognized in the urine." If the "burning down" of the Chloretone takes place in the central nervous system, as it is believed by Wilcox, the methyl radicle (CH<sub>3</sub>) and the chlorine (Cl) liberated have a chance to act directly on the nerve filaments and protoplasmic processes—inducing sleep. The action is the same as that of fatigue. Neither the Heart nor the respiratory centers are depressed. The hypnotic effect passes off gradually, and no "habit" is formed.

Chloretone is more nearly than any other known compound an ideal hypnotic, and it is not less efficient in other capacities—notably as a sedative to the excited "vomiting centre" and neighboring regions concerned in originating asthmatic or epileptic impulses, and as a local anesthetic in the stomach. Its action is not wholly central; it acts upon the brain, unquestionable, but it has a local effect also as my experience demonstrates.

Dr. Bowcock's paper was discussed by every member present. Dr. Hopkins presented a couple of interesting specimens. Adjourned.

#### KNOX COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually in the Court House, Galesburg, the third Thursday of March and September.

Membership 51.

##### Officers.

President, A. F. Stewart.....Oneida  
Vice-President, L. R. Ryan.....Galesburg  
Secretary-Treasurer, G. S. Bower.....Galesburg  
Censors, L. Becker, Knoxville; W. O'R. Bradley, Galesburg; C. F. Bradway, Abingdon.

A regular meeting was held Sept. 15, when the following program was heard:

##### Program.

Morning Session—10 A. M. sharp.

1.—**When and What to Charge for Telephone Consultations.** Paper by Dr. W. H. Maley, Galesburg. Discussion opened by Dr. J. U. Long, Maquon.

2.—**The Doctor and the Law.** Paper by E. J. King, Galesburg.

Noon intermission.

Afternoon Session—1:30 P. M.

3.—**Business Methods.** Paper by Dr. C. W. Hall, Kewanee. Discussion led by Dr. L. R. Ryan, on Records; Dr. H. W. Giles, on Collections; Dr. J. F. Percy, on Equipment.

4.—**"Deadheads."** Paper by Dr. J. E. Cowan, Galesburg. Discussion opened by Dr. B. D. Baird, Galesburg.

5.—**Investments.** Paper by P. F. Brown, Pres. Galesburg National Bank.

6.—**The Physician and the Press.** Paper by Hon. Thomas Benton Camp, Editor of the Peoria Herald-Transcript. Discussion opened by Dr. L. Becker, Knoxville.

Six P. M. banquet at Union Hotel.

Members: Allen, Archibald R., Williamsfield; Browning, A. P., Hermon; Chalmers, G. S., Galesburg; Cowan, J. A., Galesburg; Denny, A. D., Galesburg; Evans, D. J., Galesburg; Gable, E. O., Knoxville; Gray, Alice A., Galesburg; Gray, H., Galesburg; Hertig, E., Galesburg



Hilton, G. I., St. Augustine; Hopper, H. C., Galesburg; Kimble, T. C., Abingdon; Long, J. U., Maquon; Longbrake, G. A., Galesburg; Miller, J. B., Gilson; Parker, J. J., Yates City; Randleson, J. B., East Galesburg; Rowe, Jesse, Abingdon; Stewart, A. F., Oneida; Tovey, P. E., Galesburg; Truitt, E. E., Maquon; Tyler, F. P., Galesburg; Whitehead, E. I., Victoria.

### MONROE COUNTY MEDICAL SOCIETY.

Regular meetings are held bimonthly at Waterloo. Membership 9.

#### Officers.

President, J. S. Sennott.....Waterloo  
Secretary, L. Adelsberger.....Waterloo

Subject to call the members of the Monroe County Medical Society met in Waterloo, July 28th, and reorganized. Dr. J. S. Sennott of Waterloo in the chair. Dr. J. T. McAnally explained the method of reorganization. Applications for membership being in order the rules suspended and by *viva voce* vote following new members were elected:

Dr. A. J. Lee, Valmeyer; Dr. A. F. Schnell-schmidt, Burksville; Dr. I. H. Porter, Monrovia.

### CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

#### Officers.

President .....Dr. Frank Dunham, Robinson  
Secretary .....Dr. H. N. Rafferty, Robinson  
Treasurer .....Dr. C. Barlow, Robinson

The Society met in regular session on Thursday, Sept. 8, 1904, at the office of Drs. Rafferty, in Robinson, with President-elect Dunham in the chair.

The following members and visitors were present, viz: Drs. Price, Voorheis, Dunham, T. N. Rafferty, Illyes, Edwards, Barlow, Newlin, and H. N. Rafferty; and medical students Brodie Barlow and Chas. Davis.

The minutes of the previous meeting were read and approved, after which Dr. T. N. Rafferty read an interesting paper on **Arterio-Sclerosis**, dealing with the subject largely from the standpoint of etiology.

After a free discussion of the many interesting phases of this subject, Dr. T. J. Edwards read the second paper of the afternoon, his subject being **Aconite as a Febrifuge**. This paper was replete with many good things learned by the author in his forty years of practice, and evoked a very hearty and instructive discussion.

Dr. C. E. Price reported a case of **uraemic poisoning**, with a cholera-like vomiting and diarrhoea as the prominent symptoms.

Dr. LeRoy Newlin casually mentioned the case of a young man exhibiting symptoms of an acute intestinal disturbance, to whom he had given  $\frac{1}{4}$  gr. morphine, with 1/150 gr. atropine, hypodermatically every three or four hours, for two days, with no bad results.

Dr. L. R. Illyes reported a case of **ileo-colitis** in a child of 5 yrs., with irregular chills, fever, and sweating, frequent and persistent vomiting, and dilated pupils. He thought the chills were due to a malarial infection, but the child had

not been able to retain quinine. It was suggested that this be given hypodermatically; also that these septic phenomena might be the result of a multiple pyaemic infection of the liver, secondary to the dysentery, and showing as yet no enlargement of that organ.

After the transaction of routine business, the society adjourned, to meet Nov. 10th, at the office of Dr. I. L. Firebaugh.

### PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 77.

#### Officers.

President .....L. A. McFadden  
First Vice President .....J. C. Roberts  
Second Vice President .....B. M. Stephenson  
Treasurer .....Jeanette Wallace  
Secretary .....S. M. Miller  
Censors: E. M. Sutton, one year; A. J. Kanne, two years; F. B. Lucas, three years.

The Peoria City Medical Society met in the Observatory building at eight o'clock, Tuesday evening, September 6th, Dr. L. A. McFadden presiding.

The secretary read a communication from the secretary of the State Society, to the effect that at the last annual meeting he had admitted to membership in the State Society, a physician of this County who was not a member of this Society, provisional that he would make application to membership in the local society, doing this under the authority of the council.

The secretary read his reply to this, to the effect that the action of the council in this was unconstitutional, that the only portal of entry to the State Society was through the local society, that the State Society had no authority to admit to membership in the State Society persons not members of local societies. In this case we would of course be glad to receive the application of the physician in question, which we would consider solely on its own merits, not recognizing the action of the State Society.

**Dr. Roskoten:** Applications for membership in the State and national organizations must first have the endorsement of the local society. The State Society must not interfere in the affairs of the local society.

**Dr. Eckard:** The council had no right to do this, a member must pay his local and State dues to the local secretary before he is entitled to the privileges of the State meeting.

**Dr. Eckard** moved the following: That we communicate to the State Society that it is the sense of this Society that the applications of physicians not members of this Society, but under our jurisdiction, be referred to the secretary of this society and not be given the privileges of the State meeting till properly entered as members of the local society, and that members of this society desiring to attend the State meeting and who may be in arrears in dues, be referred to the secretary of this society, and that the State secretary shall not accept the State dues and then admit them to the meetings. This resolution was adopted.

**Dr. Collins** presented a boy, 11 years old, who had been shot in the abdomen by his



brother while they were playing with a revolver, which they "did not know was loaded," on July 17, 1904. Dr. Paine was called and sent him immediately to the St. Francis Hospital, and in one and one-half hours from the time he was shot he was on the operating table. The bullet entered the abdominal wall in the median line one and one-half inches below the umbilicus. The abdomen contained a large quantity of blood, and a search showed two holes in the mesentery of the ileum about three feet from the caecum. A small mesenteric artery had been severed which was ligated and the holes in the mesentery closed. Six perforations of the intestine were found within twelve inches of the wounded mesentery and were closed with mattress and purse string sutures. The portion of intestine opposite the ligated mesenteric vessels looked a little dark so it was placed just beneath the incision and held there by a gauze drain on each side. The incision was partially closed with interrupted silk-worm gut sutures. His recovery was uneventful.

The recovery was mainly due to the short time elapsing between the reception of the wound and the operation. No time was lost in using rectal insufflations of gas and ether to prove the existence of a perforation.

The peritoneal cavity was not flushed with salt solution. The blood was removed with dry gauze wipes, the most of it being found in the left iliac fossa and deep in the pelvis. The perforations were closed with iodized catgut.

Dr. Collins also presented a boy, 15 years old, who fell down an elevator shaft, 30 feet, on July 19, 1904, and sustained an injury to the brain. He did not regain consciousness until the seventh day afterwards. In a few days it was found that he had a paralysis of the sixth pair of cranial nerves, the external rectus of both eyes being paralyzed. He also developed polyuria. On Aug. 8th he passed 153 ounces of urine in twenty-four hours, Aug. 20th the amount was 188 ounces. Sept. 5th the quantity had decreased to 118 ounces, and the condition of the right eye had improved considerably.

Dr. S. M. Miller read a report on the prevalence and distribution of Tuberculosis of the lungs in Peoria based on a study of 725 deaths from consumption here since 1893. (This report will appear in the next issue).

#### McLEAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Bloomington the first Thursday of each month. Membership 95.

##### Officers.

President.....F. C. Vandervort, Bloomington  
Vice President.....A. L. Fox, Bloomington  
Secretary-Treasurer.....R. A. Noble, Bloomington  
Censors: C. M. Noble, J. E. Fenelon, C. E. Chapin

The McLean County Medical Society held its first meeting for the year 1904-5, Thursday evening, Sept. 8, 1904, being called to order by the Pres., F. C. Vandervort at 7:30 P. M.

The minutes of the previous meeting were read and approved.

The committee on resolutions regarding the death of Dr. S. L. Chapin, presented the following resolutions:

Whereas, By an unfortunate and reprehensible deed we have lost a highly cherished and honored brother, Dr. S. L. Chapin; and

Whereas, The nature of his taking off by the hands of an assassin under conditions which were especially grievous and in return for most noble acts and kindness on the doctor's part, appeal to us in a special way; be it

Resolved, First, that we lament the death and loss of our brother, Dr. S. L. Chapin, with a special keenness;

Resolved, Second, that in his demise Dr. Chapin has left the Society a heritage which is to be emulated by the members;

Resolved, Third, that we extend our hearty sympathy to his bereaved family;

Resolved, Fourth, that we furnish a copy of these resolutions to the press and also to the family of Dr. Chapin.

The Board of Censors reported favorably on the following names: E. M. Adams, Gridley; Ralph Fox, City; Ralph Pears, Normal; W. A. Coss, Danvers; H. L. Howell, City and upon motion the Secretary was instructed to cast the ballot favorably for these names.

Dr. Frank Potts, Rush 1904, was proposed for membership by Dr. H. L. Howell. Dr. E. Mammen being absent, the report of the Executive committee was postponed until next meeting.

Dr. E. L. Brown read the paper of the evening, his subject being "Criminal Abortion." His paper pointed out the frequency with which a physician is approached and the ignorance of the majority of patients regarding the magnitude of their crime in wishing to destroy the unborn fetus. He showed that great number of ailments to which woman is heir, is the result of attempted or completed abortion, either self-inflicted or as the result of criminal procedure, and urged upon the members of the profession the necessity of upholding the honor and integrity of the profession by refusing to be a party in any manner to such a procedure. The doctor's paper was well received and he was the recipient of hearty congratulations on the careful and able manner in which he presented his subject.

The following members were present: Vandervort, Fox, A. L., Reedy, Howell, Noble, C. M., Sloan, Chapin, C. E., Covington, Yolton, J. L., Yolton, R. G., Hull, Mullen, Rogers, Covey, Godfrey, Smith, Lee, Laylor, J. B., Brown, Noble, R. A.

#### NEWS ITEMS.

Alderman Butterworth is planning to re-introduce in the Chicago council an ordinance to protect the bodies of patients dying in hospitals from undue haste in removal to favored undertakers' rooms. Under the plan the hospital authorities, when there are relatives, must hold the body at least twenty-four hours, unless written permission for the removal is given. Hospitals must provide suitable rooms for the bodies. The Undertakers' association has appointed a committee as follows to take up the subject: Robert K. Sloan, former alderman, chairman; E. L. Dunstan, and A. B. Ferrigo.

# The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

## PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

Messrs. *Borroughs, Wellcome & Co.*, of London have an exhibit at the International Exposition, St. Louis, in the Liberal Arts Building, British Chemical Section, Exhibit 16, a full line of the products of that world-renowned firm. These are grouped under Surgical Dressings; Microscopical stains; Test cases; Photographic products; Hypodermical tabloids; Ear drums; Medicine Chests; Pocket Cases; Hypodermic and Ophthalmic pocket cases and Chemicals. The facts that the British Institution was founded and carried to a successful and world-wide ————— by Americans makes this exhibit and this firm of greater interest to all patriotic citizens.

### Comment on Antikamnia and Heroin Tablets.

Under the head of "Therapeutics," the *Medical Examiner*, contains the following by Walter M. Fleming, A. M., M. D.\* regarding this valuable combination: "Its effect on the respiratory organs is not at all depressing, but primarily it is stimulating, which is promptly followed by a quietude which is invigorating and bracing, instead of depressing and followed by lassitude. It is not inclined to affect the bowels by producing constipation, which is one of the prominent effects of an opiate, and it is without the unpleasant sequels which characterize the use of morphine. It neither stupefies nor depresses the patient, but yields all the mild anodyne results without any of the toxic or objectionable phases.

When there is a persistent cough, a constant "hacking," a "tickling" or irritable membrane, accompanied with dyspnoea and a tenacious mucous, the treatment indicated, has no superior. In my experience I found one "Antikamnia & Heroin Tablet" every two or three hours, for an adult, to be the most desirable average dose. For night-coughs, superficial or deep-seated, one tablet on retiring, if allowed to dissolve in the mouth will relieve promptly, and insure a good night's rest. In short, it will be found futile to delve for a more prompt and efficient remedy than "antikamnia and heroin tablets" in all bronchial complications with laryngeal irritation, dyspnoea, asthma, winter-cough and general irritability of the thoracic viscera."

\*Qualified Examiner in Nervous and Mental Diseases for Supreme Court, New York City.

### Endermol, a New Vehicle for Ointments.

By Virgil Coblentz, Ph. D., Pharm. M., F. C. S. New York.

(Reprinted from the *Medical News*, Sept. 3, 1904.)

Endermol, a combination of stearic acid amide and paraffin hydrocarbons, forms an al-

most white mass of about the consistency of lard, inodorous, of neutral reaction and fusing at 78° to 80°C. The iodine absorption number is 16.98, while that of lard averages about 62; a point in favor of the former as a vehicle for iodine.

When exposed to the air and sunlight under adverse conditions, samples of Endermol retained their color, consistency and blandness. When applied to the skin by inunction, Endermol forms a smooth, soft, unctuous mass which is readily absorbed. This may be demonstrated comparatively by applying a little of petrolatum, lanolin and Endermol in separate portions by inunction to the skin and noting the time required for absorption. Furthermore, applications of Endermol ointments of iodine (without potassium iodide), and also of aconite were followed by the excretion of iodine in the urine after about five hours in the former, and the characteristic dryness of the throat in the latter.

Rancidity in fats is due to hydrolysis or splitting up of the esters of the fatty acids, with liberation of the free acids. To the presence of these the irritating properties of rancid fats are due. In Endermol, consisting chiefly of stearic amide, we have a stable fatty acid derivative which is not decomposed under any conditions through the action of light, air, moisture or such chemicals as are usually employed in ointments.

To demonstrate the adaptability of Endermol as a vehicle for ointments, mechanically as well as chemically, ointments with such substances as the yellow and red mercuric oxide, yellow and red iodide of mercury, zinc oxide, lead subacetate and carbonate, ichthyol, tar, vegetable extracts and mercury were prepared. All of these yielded smooth, uniform ointments which showed no change whatever upon exposure.

The use of petrolatum, as is well known, is restricted to that of a dressing and this to a limited extent owing to its immiscibility with water, certain chemicals and galenicals.

Lanolin, an excellent vehicle, is objectionable because of its stickiness and toughness; and when combined with animal fats (as in lanolin creme), such ointments become rancid and offensive.

There is nothing so objectionable to either the physician or pharmacist as a rancid ointment. While lard or other animal fats may originally have been anhydrous and benzoinated yet rancidity ensues sooner or later, particularly so when aqueous fluids have been incorporated, as frequently is the case in ointments. Aside from the irritant action, chemical reaction of



the liberated fatty acids upon the medicinal agent follows.

Again, lard substitutes consisting of mixtures of suet or tallow or cotton-seed oil, stearin with cotton seed, sesame or cocoanut oils, are not only open to the same objections, but also the possible presence of alum, alkalies or water, which render them still less desirable.

Because of its blandness, pliability and freedom from stickiness, Endermol is especially adapted as a lubricant for massage treatment, always leaving the skin soft and pliable.

To sum up, the advantages of Endermol as an ointment vehicle are:

Absolute freedom from any tendency towards rancidity, although as much as 15% of water may be incorporated.

Ready penetrability and absorption.

Pliability, smoothness and freedom from stickiness.

Freedom from irritating properties.

#### UTERO-VAGINAL CATARRH,

By Louis P. Reimann, M. D., Philadelphia, Pa.

During the past two years I have experimented with Glyco-Thymoline in the treatment of some of the catarrhal conditions which affect the female genitalia. The splendid results which I obtained on the naso-pharyngeal mucous surfaces led me to try it on other mucous surfaces where the conditions were substantially the same. Actual clinical experience has proven to my satisfaction that in Glyco-Thymoline the practitioner has at his disposal a remedial agent which in my opinion, is unquestionably superior to the topical applications which I formerly employed. Without fear of contradiction I can say it is by far the best deodorant ever put in a purulent vagina. Under its influence the character of the discharge is rapidly altered and that comfort, relief and freedom from malodor which is of so much importance to the female patient, is secured.

Glyco-Thymoline, by reason of its peculiar composition, produces the rapid depletion so desirable, cleanses the surfaces and maintains

an aseptic condition of the parts.

As an irrigation for the uterus and vagina, solution of 10 to 25% are most desirable; when the uterus is highly congested an intrauterine irrigation of pure Glyco-Thymoline will produce wonderfully good results.

When I exhibit Glyco-Thymoline on tampons I find that either pure Glyco-Thymoline or Glyco-Thymoline two parts, Glycerine, one part, produces the best results.

Below I cite two typical cases which I have tested with Glyco-Thymoline during the past year.

Case 1. Miss R., age 23, weight 107, height 5 feet 2 inches. Profuse leucorrhoea (idiopathic.) She was very miserable and "run down," anemia, very nervous, severe pain in back; discharge was profuse and acrid and excoriating congestion of cervix, excoriation of vulva. Treatment: Ordered hot douches (110°) to be taken twice daily medicated with Glyco-Thymoline two ounces to quart and put the patient on the following mixture:

Acid Phos. dil.	3 iii
Tr. Ferri Mur.	3 ii ss
Tr. Quassia	3 iv
Tr. Card. Co.	3 ii
Saturated Solution	
Magnesia Sulph.	

as. ad. 3 viii

M. 3 iv. 4 times a day and Pil. Aloin. Bellad. Strych. et Ipecac; Sig. Take one each night at bed time.

This treatment was persisted in for two months when she was discharged entirely well, had gained in weight and was entirely well.

Case 2. Ulceration of Cervix. This patient had been treated with Boro-Glyceride, Iodine, Ichthyol, etc., but without much benefit. Resolved to try Glyco-Thymoline which I accordingly did. Tamponed with lamb's wool saturated with pure Glyco-Thymoline which was allowed to remain for twenty-four hours. On removal a hot douche of 10% solution of Glyco-Thymoline was given and tampon again introduced. This treatment was given for three weeks when the patient was discharged cured.

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## PRACTICAL POINTS IN ABDOMINAL SURGERY—PERITONITIS.\*

BY BAYARD HOLMES, B. S., M. D., CHICAGO.  
Professor of Surgery in the College of Physicians  
and Surgeons, Medical Department of the  
University of Illinois etc.

When my old colleague, Doctor Bridge, invited me to speak upon Practical Points in Abdominal Surgery, and described to me the character of this audience, I remembered the experience which I have had in endeavoring to give my radical and technical ideas to an audience of relative strangers. This topic, however, is one that permits such a variety of opportunities, that I hope to be able to interest a larger number and possibly give something of value to a few.

In the remarkable craze for abdominal surgery which has raged through the country during the past ten years the physician has generally overlooked the importance of an absolute and exclusive diagnosis. The technique of operative procedures has overshadowed the importance of clinical observation and diagnostic acumen. The first and the essential point in abdominal surgery to which I would call attention is the necessity of an accurate, a careful, a conscientious, a complete and an exclusive diagnosis. It is easy enough for any veterinary to spay a pig, but the combined knowledge, wisdom, argument and practice of the most highly educated and conscientious body of men of three continents has not yet been able to accurately set down the indications for this operation in gynecology. The merest tyro can remove an appendix, drain a gall-bladder or make an intestinal resection, but our most highly educated, our most thoroughly trained and our most extensively experienced physicians are unable to agree upon the time at which these operations should be done, and in any particular case they are unable to prescribe

an operation before the ravages of the disease has made the operation ineffective or risky. The technique of abdominal surgery has been so far perfected that it now awaits only an equal advance in surgical diagnosis in order to place it among the exact sciences.

The public at large and the practicing physician are interested in the symptoms, probabilities and treatment of the most common and the most threatening conditions. Without any doubt appendicitis is the most common, and it is the one condition upon which there is no end of wasted words and no relief from fantastic pathologic hypotheses. At the request of your Secretary, it shall be nameless here. There are, however, threatening conditions which follow a neglected appendicitis as well as many other accidents in the abdomen, which furnishes the motive for all early operative procedures and stands before the diagnostician as an ever-present threatening spectre. It seems to me very appropriate to confine my remarks to this terrible danger alone, which unfortunately is one for which there is little or no surgical relief and toward which all conditions within the abdomen calling for surgical interference invariably trend.

### PERITONITIS.

Excluding the rare possibilities of a chemic or a mechanic peritonitis, this disease is always due, in the clinical sense at least, to some form of infection. In the ordinary suppurative peritonitis, this infection is the staphylococcus, the colon bacillus, or other kindred micro-organism. In tuberculous peritonitis it is the tubercle bacillus. The course of the disease and the possibilities of recovery or spontaneous disappearance of the inflammation, depend in a measure at least upon the specific character or the acquired virulency of the infection.

Among the most prominent factors which come into the problem of a peritonitis are the physiologic relations of the peritoneum,

\*Read at the Elgin Medical Society on September 12, 1904

the anatomy of this enormously distended and complicated lymph space, and the ceaseless activities of its contained viscera.

The three great serous cavities of the body are quite differently related to the sources of possible infection, and they seem to have acquired different degrees of immunity or resistance to infection. The cerebrospinal cavity, or the cerebrospinal lake, is far removed from any infection except through pathologic condition of the middle ear, the antrum, and the mastoid cells. It presents the clinical picture of the least possible amount of resistance to infection. When it has once become infected in one part, the whole cerebrospinal cavity is quickly subject to the infection, which is carried by the constant stream of cerebrospinal fluid which fills it. Only when the infection is of a low grade, or when it is self limited in its development, is there any possibility of reaction and recovery.

The pleural and pericardial cavities stand somewhat closer to the possibilities of infection, and they seem to have acquired in the process of evolution a greater resistance to infection, and possibly some immunity. It is certain that we see cases of pneumococcic pleuritis that recover spontaneously through the arrest of the progress of the infection and the absorption of the exudate. When, however, the micro-organisms which always swarm in the upper air passages are carried from the smaller bronchial tubes, which they invade in the course of bronchitis or pneumonia, through the lymph channels, and are poured out into the pleural cavity, a progressive and destructive infection follows which can be brought to an end only by adequate drainage.

The peritoneal cavity is the largest and the most closely related to possible sources of infection. It communicates directly with the external world in the female through the vagina, the uterus, and the Fallopian tubes. In both males and females it is in the closest proximity to a constant and most extensive mass of infectious material, namely, the contents of the stomach, the intestinal tract and its appendages. It is separated from this seething mass of infection by the thin intes-

tinal wall, which is itself liable to defects as the result of external traumatism and various forms of ulceration. The appendages of the intestinal tract, especially the appendix vermiformis, the gall-bladder, and Meckel's diverticulum, are traps laid for the purpose of catching and disseminating infection. Thus, through the evolution of the peritoneal cavity great immunity to infection seems to have been acquired by the peritoneum, and various modes of arresting or localizing the infection have been taken advantage of. Were it otherwise, the existence of the present mammalian peritoneum could not be imagined.

Clinically peritonitis is a hopeless terminal disease, except when by some rare chance it is limited to a small portion of the peritoneum. The study of peritonitis is of interest to the physician far less on account of its treatment than on account of its possible prevention. The serious result of peritonitis makes the study of any feature of the peritoneum of the utmost interest. Nothing can be neglected, either in the physiology or anatomy of this largest serous cavity in the body.

The peritoneum is essentially a lymph space and a lymph channel. From every organ of the abdomen, the liver, the pancreas, the spleen, the intestinal tract, and the genito-urinary organs, streams of lymph pass in and out of their peritoneal coverings when they are in a state of hyperemia or engorgement. There is always a small quantity of serum bathing the surfaces of the abdominal viscera. It is likely that certain portions of the peritoneal surface are almost exclusively absorbent, presumably the posterior peritoneum and the coverings of the mesentery and omentum. The quantity which passes through the peritoneal cavity in a given time has been variously estimated, but in any case it is looked upon as a rich and rapid lymph circulation.

The minute anatomy of the peritoneal surfaces is relatively simple. The cells which cover the surfaces are attached edge to edge in such a way as to leave numerous stomata or mouths communicating directly with the subserous lymph channels. These stomata



are of very considerable size and have a more or less definite configuration. Below the serous layer there is a rich network of capillaries, held in a rather firm connective-tissue membrane. In the course of inflammation these blood-vessels are enormously distended, and the delicate serous and subserous tissues become hypertrophied to such a degree that they feel hard and thick like the palm of the hand. In various places beneath the serosa, especially in the mesentery and the inguinal abdominal wall, there are great chains of lymph glands, which vary from the smallest perceptible nodules to glands the size of walnuts. Each of the abdominal organs has a special system of lymphatics gathering up the lymph from the serous surface and collecting it at the hilum or at the mesentery of the organ. The course or direction of the lymph streams is of the greatest clinical interest, especially when any surgical procedure is undertaken upon a large viscus like the stomach. The peritoneum is supplied with nerves entirely from the sympathetic plexus. These nerves carry little or no painful sensations until they have undergone changes in the course of inflammation.

The extent of the peritoneal surfaces is something enormous. Every abdominal viscus and organ, including more than twenty feet of intestine and its mesentery, the omentum and the abdominal walls, is covered by this delicate serous membrane. This surface has been estimated at more than twenty-five square feet. From its very extent the gravity of peritonitis can be predicted. It is fortunate for the clinician that the peritoneum is divided by the various organs into two more or less distinct cavities, with further subdivisions into pockets or fossae, any one of which may be the site of disease, while the others remain uninfected. From a clinical standpoint there are two peritoneal cavities, the upper and the lower, the cephalic and the caudal, separated from each other by the stomach, the transverse colon, and the omentum. A certain group of primary diseases gives rise to a secondary peritonitis in the cephalic peritoneal cavity, while another and wholly distinct group of diseases gives rise to peritonitis in the caudal peritoneal cavity.

This division is of great diagnostic significance, and it is the duty of the diagnostician to early determine the probability of infection in either of these cavities. Infectious cholecystitis or cholangitis, pancreatitis, gastroduodenitis, ulcer of the stomach or duodenum, or infarcts of the liver and spleen, give rise to a secondary peritonitis in the cephalic cavity, while an appendicitis, a perforating typhoid ulcer, a pyosalpinx, a rupture of the urinary bladder, or intussusception, gives rise to a peritonitis in the caudal or lower peritoneal cavity.

The embryologic development of the peritoneum and the various excursions that take place and attachments which are formed in the production of the adult peritoneal cavity are too technical to be considered here. The anatomy of the adult peritoneal cavity must, however, receive attention. If the abdominal viscera are removed, the posterior abdominal wall in the male presents the appearance semi-diagrammatically represented in Plate I. Beginning about the middle of the Plate the transversely cut caudal end of the first portion of the duodenum is seen, with the attached common duct to the right of the hepatic artery, and a short distance below this is seen the raw surface extending transversely across the abdomen, from which the stomach and transverse colon have been removed. With the attached spleen this raw surface, which represents the severed mesocolon, divides the cephalic from the caudal portion of the posterior parietal peritoneum. Below the mesocolon there are four quite distinct longitudinal divisions of the posterior peritoneal wall, making four quite distinct peritoneal valleys. These longitudinal divisions are produced by the ascending mesocolon on the right, the mesentery of the small intestine in the middle, and the descending mesocolon on the left. Each one of these valleys or fossae may become the site of peritonitis, and the other fossae remain uninfected.

1. If the liver is raised up and the left index finger is passed with its palmar surface near the right border of the gall-bladder and then gradually insinuated downward, always to the right of the common duct, it will pass upward into a fold of peritoneum

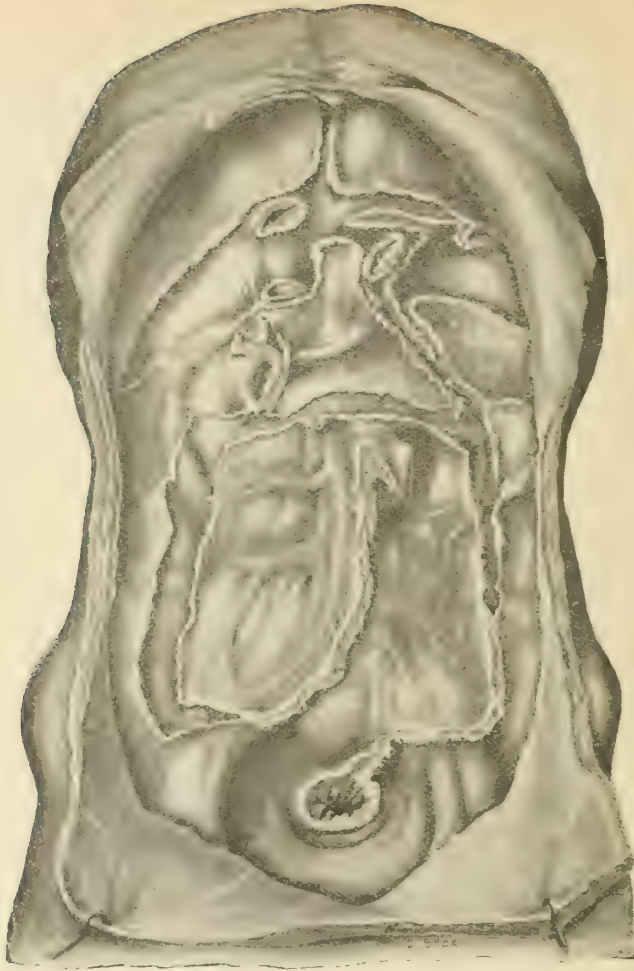


PLATE I.

This plate is intended to show the division of the dorsal wall of the peritoneal cavity into various fossae and pouches. Near the center of the plate, and just below the section of the duodenum, is seen a transverse raw surface, separating the upper, cephalic, peritoneum from the lower, caudal, peritoneum. This raw surface was produced by removing the transverse colon, under the mesentery of which the jejunum dips, showing its section in the shadow to the right of the middle line of the picture, and directly over the ileocecal fossa. From the section of the jejunum there runs downward through the center of the picture, turning at last toward the right iliac fossa, a raw surface, in close contact with the superior mesenteric artery, and containing the cut ends of the mesenteric arterioles. This raw surface was produced by the removal of the twenty feet of ileum. It separates the right ileocolic fossa from the left. At the termination of this raw surface in the right iliac region there is a broad, raw surface extending upward, from which the cecum and ascending colon were removed. Lateralward of this denuded surface is a fossa upon which the infection from the appendix creeps and produces the subphrenic abscess, and down which the infection from a perforating ulcer of the duodenum creeps to the caudal peritoneal cavity. This fossa is bounded lateralward by the parietal peritoneum, and it opens caudally into the pelvic peritoneal cavity. In the upper right hand corner of the plate is seen the cut end of the esophagus, and to the right of this the dorsal wall of the lesser peritoneal cavity, which is bounded ventrally by the dorsal wall of the stomach, the dorsal attachment of which has been cut away, leaving a raw surface extending from the section of the esophagus caudad and toward the right of the picture through a section of the spleen to the end of the section of the mesentery of the transverse colon where it joins the descending colon. It contains the cut ends of the gastric artery above and splenic artery below. In the center of the plate, and near the bottom, is seen the cut end of the rectum, and extending upward, cephalad, and toward the right of the picture in an S-shaped course, is seen the raw surface from which the sigmoid and ascending colon have been cut away, thus dividing the peritoneal cavity again into a fourth longitudinal fossa.

Beginning at the cut end of the esophagus again, and extending toward the left of the picture, is a broad, irregular, denuded surface, from which the attachments of the liver have been removed, exposing the diaphragm and two cut ends of the inferior vena cava. From this raw surface, and extending upward in the middle line, dividing the peritoneal surfaces of the diaphragm into two portions, is the raw surface produced by the section of the falciform ligament of the liver.

Thus, beginning at the top of the plate, we have five distinct pouches or fossae of peritoneum, any one of which may harbor infection, and from any one of which infection may go out into all of the other fossae: the lesser peritoneal cavity, or the retrogastric peritoneal pouch, usually infected from the dorsal wall of the stomach, the cephalic peritoneal cavity, usually infected from the gall-bladder, the common duct, the pyloric end of the stomach, or the first portion of the duodenum, the right ileocolic fossa, usually infected from the appendix; the left ileocolic fossa, rarely the site of primary infection, and the pelvic fossa, usually infected from the genitourinary tract. Lateralward of these five fossae are the right and left retrocolic fossae, the former of which is usually infected from the appendix, but sometimes from the biliary tract or the gastroduodenal region.

just large enough to contain it, and a considerable peritoneal pouch known as the lesser or little peritoneal cavity. This opening in which the finger finds itself is the foramen of Winslow, and it is a point of great surgical and anatomic interest. This foramen is

last cephalic portion of the jejunum on its palmar surface, the opposing right index finger can be brought on the left side of the jejunum, against the pulsating superior mesenteric artery and the transverse portion of the duodenum, into the duodenojejunal

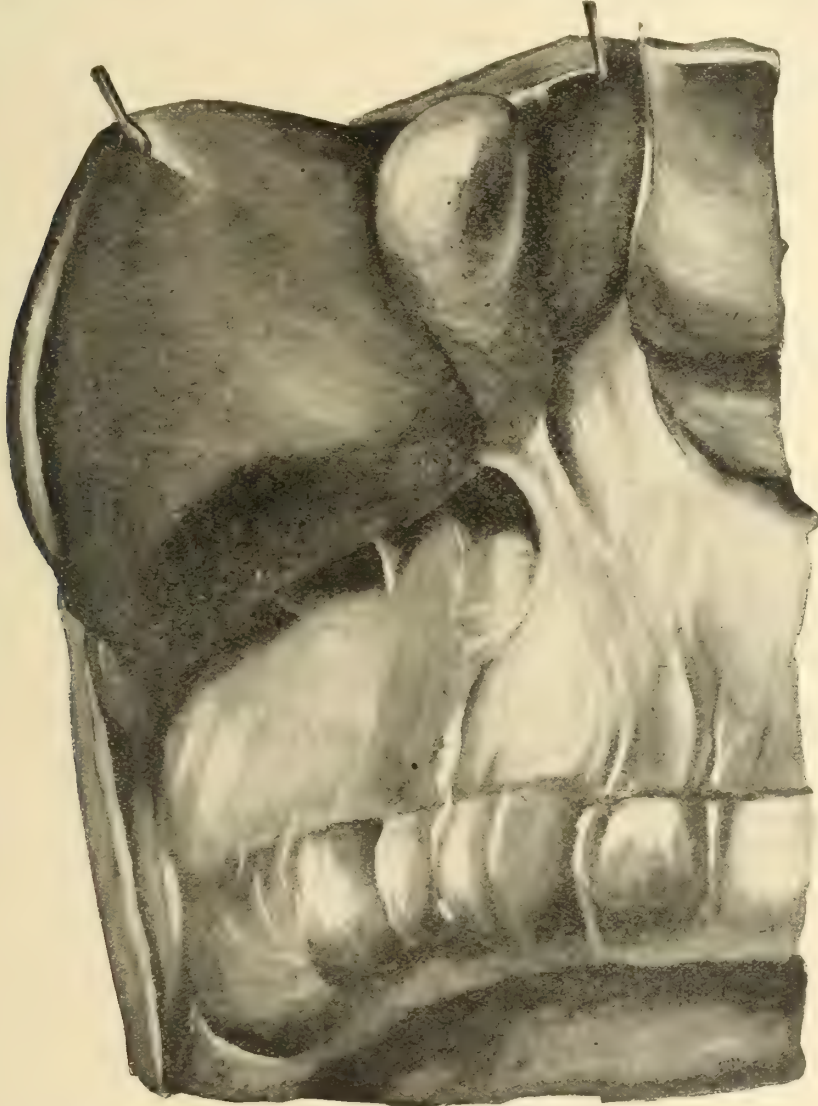


PLATE II.

The under, caudal, surface of liver and gall-bladder, showing entrance to lesser peritoneal cavity through the foramen of Winslow.

shown with its anatomic relations in Plate II.

2. If the colon and omentum are raised upward and the ileum drawn toward the right so that the left index finger holds the

fossa. This foramen is sometimes known as Treitz's foramen. It is of great surgical interest on account of the occasional occurrence of hernia into this fossa or recess. In about two-thirds of all individuals this foramen



admits the index finger and the fossa holds the thumb as far as the first joint only.

3. Behind the mesentery at the angle of junction of the ileum and cecum there is a peritoneal pouch known as the ileocecal fossa, which sometimes reaches as far upwards under the cecum as the right kidney. It is bounded upon the right by the mesentery of the appendix and cecum, and upon the left by the mesentery of the ileum, containing the ileocolic artery. It is covered above, in the ordinary position of the intestines, by the ileum, and in some subjects by the ileocecal fold. In this embryologic peritoneal pouch the vermiform appendix is often left behind and firmly attached. This pouch is often the site of periappendicular abscess which are separated from the general peritoneal cavity by adhesive peritonitis.

4. The ileocolic fossa is a superficial fold, which is found in some cases, especially when the ileocecal fossa is absent. It is fitted into the angle of the ileum and colon, and is usually too shallow to be of much clinical interest. It is bounded on the right by the ascending mesocolon and caudally by the mesentery of the ileum, and is separated from the greater ileocolic valley on the right by the ileocecal fold and the prominence given the peritoneum by the ileocolic artery.

5. The intersigmoid fossa is a fold of peritoneum which has attained great clinical significance from the fact that it frequently includes the mesocolic hernia of Cooper.

These fossae, pockets, folds, or recesses of the peritoneum are of the greatest possible clinical importance, because they are straits in which the intestine may become incarcerated and strangulated, giving rise to the symptoms of obstruction of the bowel and later to infection and general peritonitis.

The physiologic activity of the peritoneum is something marvelous to contemplate. While some of its portions, especially the diaphragmatic and posterior parietal peritoneum, seem to have greater activity than other portions, the peritoneum covering the various organs of the abdomen has been proved to be actively absorbent. Fine particles of coloring matter suspended in non-

irritating fluids and rendered properly aseptic have been placed in the peritoneal cavities of animals and in an excessively short time these particles are found in the lymph tissues of the mesentery; in the lymph tissues of the capsule and substance of the liver and its hilum, and in similar structures in every abdominal organ. The diaphragmatic and mediastinal lymph tissues are most rapidly colored, and this indicates an unusual activity in the peritoneum of the rapidly moving diaphragm.

The quantity of fluid which is absorbed by the peritoneum has been carefully studied in animals, and these experiments indicate that the so-called normal saline solution to the extent of from five to eight per cent of the total weight of the body is absorbed in each hour. Watery solutions of poisonous substances injected into the peritoneal cavity are more rapidly absorbed than when taken into the intestinal tract. The effect of irritants and poisons upon the absorptive power of the peritoneum is very rapid, and with certain poisons and intoxicants the absorption ceases and the fluid or irritant remains isolated. Thus, when the irritant is first injected it is rapidly absorbed, but the peritoneum is thereby so destroyed that no further absorption takes place.

When fluids of an osmotic power different from that of the blood serum are injected into the peritoneal cavity, a most rapid exudative process is undertaken by the peritoneum. Concentrated solutions of sugar injected into the peritoneal cavity of animals have caused an exudate equal to 4.3 to 8.3 per cent of the weight of the animal during the first hour. When septic material is injected, this exudate is rapid and results in the formation of fibrinous adhesions, which limit the exudative process and cover the infected peritoneum with a sort of granulation tissue. The exudate which occurs from traumatic obstruction of the efferent blood supply of a glandular organ, a viscus, or a tumor is sometimes very rapid and enormous. The exudate also contains traces of the secreting products of the gland, the material of the tumor, or the contents of the viscus. For obvious reasons no very accurate estimate

of the quantity of fluid which may be thus transuded from the several abdominal organs has been made. No one knows when the obstruction occurs, nor how much of the transudate has been resorbed. With the transudate comes the bile pigment from the liver, or the peculiar toxic elements of an ovarian tumor, or the fecal toxins and the colon bacilli from the strangulated intestine or vermiform appendix. In any case the presence of a fluid in the peritoneal cavity is a source of danger to the patient, for it is likely to become the culture medium of any micro-organisms which might gain access to the peritoneal cavity.

The nerve supply of the peritoneum is derived from the sympathetic plexus. It is but poorly supplied with sensory fibers. The peritoneum of the intestine or other abdominal viscera can be handled gently without the production of anything but an indistinct malaise. The appendix vermiformis, the gall-bladder, or a Meckel's diverticulum may be removed under local anesthesia for the abdominal incision without producing anything like the amount of pain which a similar operation would produce upon the lip, the tongue, the tonsil, the prepuce, or even the cervix of the uterus. When, however, the peritoneum is roughly handled, the shock which results produces a remarkable fall in the intraarterial tension. Upon animals Crile has shown that the diaphragmatic peritoneum and the peritoneum of the cephalic peritoneal cavity is much more intimately connected with the production of shock than that of the caudal peritoneal cavity. The shock is diminished when the peritoneum has been very lightly cocaineized. It is a frequent clinical observation that rupture of a viscus produces sudden and terrible shock.

When the peritoneal surfaces have become irritated or inflamed, they take on a very decided sensory function. The pain of a peritonitis is one of the most agonizing which can be imagined or suffered. Frequently the progress of a disease of the gall-bladder or appendix gives rise to temperature and symptoms of intoxication, but only after the peritoneum is involved does the first painful symptom appear. In some cases the gall-

bladder, for instance, is filled with pus and greatly distended, rendering the peritoneal covering anemic and therefore anesthetic, so that rupture of the distended viscus takes place without pain, and the first symptom is shock, quickly followed by the pain of a general peritonitis.

If we look upon peritonitis from the standpoint of its etiology, we are concerned very promptly with the possibility of a primary or idiopathic peritonitis. From a theoretic standpoint the peritoneum, the pleural cavities, the pericardium, the serous cavity of any joint, may be the site of an inflammatory process produced by a microorganism or infection which has left no signs of its progress from its atrium in the digestive, respiratory, or cutaneous surfaces to the serous surface itself, but as a matter of fact, this theoretic possibility is not sustained by clinical observation. A pleuritis is the result of a pneumonia, an infarct of the lung, an osteomyelitis of a rib or vertebra, a ruptured mediastinal lymphadenitis, a perforating ulcer of the stomach attached to the diaphragm, or other adjoining infection. The same explanations follow the study of pericarditis, and joint infection. Grawitz found 867 cases of peritonitis in the Charity Hospital between 1876 and 1885 out of 8,421 postmortem examinations. In 13 of these he was unable to demonstrate the source of the infection in an adjoining organ, and was obliged to put them down as cases of primary peritonitis. Later observers have made a more careful study of the sources of peritonitis, and as a result Benda and Habershon were able to demonstrate the source of the disease in almost every case which came to autopsy. Primary or idiopathic peritonitis is a theoretic ghost, which has always been feared by diagnosticians, but never observed either by the pathologist or by the surgeon.

A peritonitis may be the result of traumatic irritation. In this case it is reparative and self-limited, and leaves no trace behind it except the adhesions which may result from the attachment of the inflamed peritoneum of one viscus to that of the abdominal wall or of another viscus. Such cases of traumatic peritonitis follow injuries of the

abdomen, rupture of the capsule of the liver, of the spleen, of a fibroid of the uterus, or the peritoneal covering of the uterus itself, of a distended intestine, or other abdominal organ. These injuries to the peritoneum result in local, reparative, adhesive peritonitis. This peritonitis presents all the symptoms of an infectious peritonitis except those that relate to or depend upon toxemia. The shock and pain are present, but the rise in temperature is trifling and transitory, and the leucocytosis is insignificant and rapidly receding.

Peritonitis of a chemic origin arises from the irritation of a transudate: the escape of urine, or the rupture of an ovarian tumor or pancreatic cyst or gall-bladder into the general peritoneal cavity. These rare clinical findings are quickly overshadowed by the appearance of infection in the transudate and exudate. The symptoms of the chemic peritonitis are similar to those of a traumatic peritonitis except in that the whole peritoneum is apt to be involved. The shock and pain are therefore more extensive and serious, and a certain sort of toxemia is added to the picture. This toxemia may differ in no respect from that of an infectious peritonitis except in that it is non-progressive and self-limited. The patient may, however, die of the rapid toxemia, or if she survive, the toxins of the ruptured ovarian tumor, for example, may be all eliminated and health restored. There will then be left behind only those results of the peritonitis which would follow a traumatic peritonitis involving the same viscera.

When an uninfected gall-bladder or common duct is opened into the peritoneal cavity it gives rise to a chemic peritonitis which continues as long as the irritating bile leaks through the rupture. As soon, however, as the rupture closes the escaped bile is absorbed and the exudate which covers the irritated peritoneum undergoes regenerative changes and disappears, leaving the dangerous adhesions to confound the diagnostician.

The prime and only important etiologic factor in peritonitis is the infectious micro-

organism. The three important sorts of infection are:

(1) Those micro-organisms that infect the peritoneum whose ordinary habitat is the intestinal tract, namely the staphylococcus, the colon bacillus, and the streptococcus. These micro-organisms and those which accidentally accompany them as messmates or as pathologic accidents of the intestinal tract, such as the influenza bacillus, the bacillus of dysentery, or possibly the typhoid bacillus, produce the greater number of cases which we are called upon clinically to observe or treat.

(2) Those that enter the peritoneum from a septicemic condition, such as the tubercle bacillus in acute miliary tuberculosis, the pneumococcus, the gonococcus in males, and possibly occasionally in females.

(3) Those micro-organisms that come from the external or adjoining parts, not the intestinal tract, as for example the gonococcus in pyosalpinx, the tubercle bacillus in tuberculosis of the mesenteric lymph glands, or in Pott's disease of the spine, and the staphylococcus and streptococcus in cases of rupture of the urinary bladder, perinephritic abscess and perforating wounds of the abdominal wall.

The reaction of the peritoneum to infection depends almost entirely upon the character and quantity of the infection. The first effect of a peritonitis due, for instance, to the colon bacillus is the effusion of a fibrinous or serous exudate, which results in causing an agglutination between opposing peritoneal surfaces. This agglutination is more rapid when the effusion is slight and coagulable, and slow or absent when the effusion is rapid and serous. The peritoneal surfaces are at once swollen and turgid; the capillaries are greatly enlarged, and the subserous connective tissue is increased to an enormous extent. The underlying blood-vessels frequently undergo such changes in their walls that a thrombosis, at first mural and then obliterating, takes place. This thrombosis adds to the gravity of the disease, and its danger is apparent when we remember the proximity of the intestinal and mesenteric blood-vessels to the peritoneum. The



underlying muscles of the intestinal tract are paralyzed by the infiltration of their sheaths, and peristalsis stops, resulting in obstruction of the bowels. The mesenteric and other lymph tissues are engorged with serum, and afterwards with infectious material, and they sometimes become, in circumscribed peritonitis, the site of real abscesses, which may remain after the peritonitis has been relieved by surgical measures.

The rapidity and course of a peritonitis due to the tubercle bacillus is slower, while that due to the invasion of the streptococcus is more rapid; and there are doubtless grades of virulency for these two and for all other micro-organisms.

Since the peritoneal cavity is a single, open, and practically continuous space, the artificial division of peritonitis into local and general, circumscribed and diffuse, is merely a matter of pedantic convenience and not of clinical significance. It is a fact that many cases of peritonitis become in the course of time circumscribed by adhesions, but this peritonitis was at first diffuse and uncircumscribed and liable at any moment to become general. Nevertheless, it is convenient for us to say that a peritonitis is general, and from a clinical standpoint it is therefore fatal unless it be due to the tubercle bacillus. It is convenient to say in another case that a peritonitis is diffuse and occupies an unbounded and unlimited portion of the peritoneal cavity, but fails to involve it in its entirety, and it possesses the possibility of becoming circumscribed by adhesive processes. It is convenient in another case to say that the peritonitis has become circumscribed; that it occupies a definite and limited portion of the peritoneal cavity, and that the remainder of the peritoneal cavity is free from infection. With these limitations the terms are used in this discussion.

Again, the character of the effusion or absence of effusion gives the peritonitis certain appellations. If it is free from liquid effusion, it is said to be a dry peritonitis, *peritonitis sicca*; if it is a peritonitis in which fibrin is extruded, it is called a fibrinous peritonitis. If serum is transuded, it is

called a serous peritonitis. When pus is formed from the effusion, it is called a suppurative peritonitis. The result of a peritonitis sometimes determines the appellation. When the peritonitis results in adhesions, it is called an adhesive peritonitis. When it limits the extension of the infection, it is called a limiting peritonitis. When it obliterates a peritoneal fossa or pouch, it is called an obliterating peritonitis. Most of these limitations are obvious and require no explanation or definition, but they must be understood as relative and as artificial categories into which only a small number of typical cases permit themselves to be classified.

As remarked at the beginning of this address, peritonitis is interesting to the physician and surgeon only so far as its prevention is possible or its course is limitable. The treatment of peritonitis is a short and melancholy chapter and confined entirely to the treatment of the localized or not extensively diffuse disease. The question which at once arises in the mind when symptoms of peritonitis appear is, "From what point or atrium did this peritonitis arise?"

The most obvious though one of the rarest doors through which the etiologic factor of peritonitis enters is a defect in the abdominal wall, or an opening between the gastrointestinal tract and the general peritoneal cavity. Stab wounds, gunshot wounds, and other penetrating wounds of the abdominal wall give entrance to the pathologic micro-organisms, which set up a peritonitis. The same result follows from a ruptured or perforated intestine or other viscus. Such a defect is usually plainly indicated and perfectly obvious.

The most common source of peritonitis, especially in the male and in children, is the vermiform appendix. Probably two-thirds of all cases of peritonitis, in these subjects at least, arises from the spread of an intra-appendicular infection to the periappendicular peritoneum.

The second most common source of peritonitis is confined entirely to adult females, and is limited to the uterus and fallopian tubes. In the former the infection is usually

of a puerperal origin, while in the latter instance it is due to gonococci, with possibly a later mixed infection.

Probably the third site of a beginning peritonitis is the region of the gall-bladder and common duct. Here the peritonitis may be due to the spread of an intracystic inflammation to the pericystic peritoneum, or it may be due to infection about a stone in the common duct and the spread or discharge of the infection into the cephalic peritoneal cavity.

The other sources of peritonitis are of uncertain frequency. The stomach and duodenum are occasionally perforated by ulcers; abscesses occasionally appear in the liver and break into the peritoneal cavity; intussusception, carcinoma of the intestine, infarcts of the spleen, and other viscera give rise to peritonitis; loops of intestine become strangulated in the inguinal ring, the foramen of Winslow, the duodenojejunal fossa, the obturator foramina, or through abnormal defects in the region of the umbilicus or the diaphragm. Ulcers of a tuberculous or typhoid origin rupture into the peritoneal cavity, and suppurating lymph glands in the mesentery or abdominal wall give way. Prostatic abscesses and perirenal abscesses, or even abscesses arising from the kidneys, the vertebra, or the abdominal wall, break into the general peritoneal cavity and give rise to the terminal disease. In the course of marasmus thrombi form in the mesenteric vessels, and the tributary gut is quickly rendered necrotic and infected. In the course of endocarditis and pyemia, and especially in the course of puerperal sepsis, infected emboli may produce infarcts in any of the blood vessels tributary to the peritoneum.

The diagnostician and clinician must not confound his judgment of the probabilities in any case by the multiplicity of possible sources of peritonitis.

The clinical picture of an acute peritonitis is one with which the physician becomes mournfully familiar. It is most striking and characteristic. Even the appearance of the patient's face and the attitude of the body are enough to establish the diagnosis at the first glance of the experienced clinician. The patient is supine, fixed, immova-

ble, and with the knees drawn up, the head and shoulders thrown forward, and the arms in an attitude of protection. The face is thin, pinched and the nose appears sharp. The eyes are sunken; the color of the skin is pale but smoky; the lips are red, and the brow is covered with a cold sweat. When the abdomen is exposed the abdominal muscles are rigid, and at first retracted, and later distended to the utmost. The respirations are wholly costal and rapid in proportion to the distention of the abdomen and the amount of shock or cyanosis. The pulse from the very first is excessively rapid, 104 to 160 to the minute; it is weak and almost imperceptible at the onset of the disease and during the persistence of shock, but later it becomes full and bounding. The temperature is often carried over from the primary source of the peritonitis, but it usually falls as soon as the peritonitis begins, and often leads to a false hope of a betterment of the condition of the patient; (the cross of the curves.) When the peritonitis is rapid, virulent, and diffuse, the temperature is often very high, especially in puerperal sepsis, reaching 104 to 106.

The voice of the patient is remarkably changed, and is at first weak and restrained, and finally becomes harsh and ringing. The mind remains clear usually to the last, or when the temperature is very high a mild and consistent delirium, with vivid illusions, prevails. Toward the end the patient has a delightful sense of well being, which betokens euthanasia. The face becomes cyanotic, the extremities cold, and the body is covered with a cold sweat.

The onset of the peritonitis is usually marked by the sudden appearance of dreadful abdominal pain. This pain is of such a nature that it is to be mistaken only for the passage of a biliary or urinary stone. It is so agonizing and terrible that the physician is tempted to at once administer morphine or an anesthetic. From that time on the pain is constant, with frequent exacerbations. The pain begins to subside only after the effusion has become considerable and the toxemia has produced an anesthesia of its own. Every effort at inspiration produces

pain, which limits the motion of the diaphragm. The patient can hardly endure the slightest touch over the abdomen, and the movements of the bed and bed-clothing produce acute distress.

With the onset of pain there appears as a rule a violent attack of vomiting. At first the contents of the stomach are discharged, then later in the course of the disease the water which the patient is constantly calling for, and bile-stained mucus are thrown up, and last of all, when the obstruction of the bowels through paralysis has become complete, the patient throws up fecal smelling vomitus or even fecal matter itself. Any time during the course of the disease the highly congested mucous membrane of the stomach exudes blood, and this gives rise to the black vomit which is so ominous to the laity. Every attack of vomiting produces an exacerbation of the abdominal pain and leaves the patient cyanotic, dyspneic, and covered with a cold sweat.

From the very beginning of the peritonitis the intestinal muscles are paralyzed, and there is complete obstipation, and even the passage of gas is arrested. No amount of enemas does more than empty the lower bowel, and every enema and every attempt at catharsis produces an increase in the pain. Even the introduction of a few ounces of fluid into the colon is followed by a reverse peristalsis, which carries the fluid upward to the site of obstruction. This event is marked by an agonizing colic, which slowly subsides.

The urine during the whole course of the disease becomes scanty and more scanty, and contains a larger and larger quantity of the normal constituents, with a very great increase in the quantity of indican, and at last a growing quantity of albumin and many granular and bloody casts. Their presence in the urine must be looked upon as one of the gravest manifestations of a localized or diffuse peritonitis.

The effusion into the peritoneal cavity comes on usually with great rapidity after the onset of the disease. Sometimes, however, the infection is so virulent that the intestines become covered quickly with a congested serosa almost like a veil of granula-

tion tissue, and then only a small amount of bloody, stinking serum is found in the pelvis at the autopsy. The tenderness of the abdomen and the distress of the patient at every effort to palpate or percuss the abdomen makes any serious attempt to determine the amount of the exudate clinically impossible. A rectal or vaginal examination, a light palpation of the abdomen with most careful percussion of the flanks, and an auscultatory percussion, especially over the liver and stomach, is all that can be attempted. No effort should be made to determine by palpation the original site or atrium of the disease. If the absence of liver dullness gives rise to the suspicion that the abdominal cavity contains free gas, it may speak for a perforation of the intestinal tract, or for the improbable presence of gas-forming bacilli in the effusion.

The course of the disease is so short that the examination of the blood shows variation only as concerns the leucocytes. While the leucocytosis may have been very moderate, 8,000 to 12,000 to the cmm. during the course of the primary disease, the metritis, the salpingitis, the appendicitis, or the cholecystitis, or even below normal during the course of the typhoid, as soon as the peritonitis is initiated, the number of leucocytes increases with tremendous rapidity, until it reaches 30,000 to 60,000 to the cmm.

The natural tendency of infection within the peritoneal cavity, from whatever atrium it comes, is toward a rapid, diffuse, or general dissemination, until all the peritoneal surfaces are involved. There are many elements or factors which contribute toward this end, and only a few that tend to limit the spread of infection. (1) The natural capillary attraction between the peritoneal surfaces results in a rapid spread of the effused and infected lymph about, for example, a defective appendix. If the surfaces of two microscope slides are brought together and the edges touched to a drop of ink or colored fluid, the drop spreads rapidly in every direction until all of the opposing surfaces are stained. This happens upon peritoneal surfaces whenever infected lymph is poured out into the peritoneal cavity. (2) The peri-



tional surfaces are unlike the rigid surfaces of a glass plate in this respect that they are for the most part in constant motion. The peritoneal surfaces of the intestine undergo peristaltic movements, carried on by the muscles of the gut. This movement is increased by the presence of food in the stomach, by the use of purgatives, and is diminished by the use of opiates and by the toxemia of the infection. (3) The diaphragm is in constant motion and communicates aggressive and repressive movement to every organ and viscus of the abdomen from the liver to the bladder and uterus itself. By this constant swinging of the viscera infection is spread from one surface to another. (4) The action of gravity causes an effusion to spread from a higher to a lower part of the abdominal cavity, and this influence is changed with every change in the position of the body. (5) Last of all, the extent of the effusion naturally results in the spread from one locality to another, and this factor prevails even when the limiting factors have exerted themselves to the utmost. It is hardly worth while to mention a number of other factors which result in the spread of infection, such as vomiting, the distension of the bowel above a completely paralyzed gut, the formation of capillary thrombi, the disintegration of infected effusions of lymph and fibrin, and the spread of the infection as a lymphangitis.

The factors which result in the limitation of infection are less numerous and less efficient. (1) The most important limiting factor is the production of a fibrinous, adhesive peritonitis, somewhat in advance of the infection, the result of a toxemia carried through the subperitoneal lymph channels. In some forms of peritonitis this effusion does not appear. The surfaces of the peritoneum remain covered with liquid effusion, and no tendency is shown toward adhesions between the peritoneal surfaces, while every movement of the intestine and of the body spreads the infection. Adhesive peritonitis appears only when the effusion is small or slow. The formation of adhesions requires time, and when the inflammatory process is too rapid it is not present, or it is limited

to small areas of motionless peritoneum. (2) The paralysis of the bowel produced by the contact of infected effusion is a strong limiting factor in peritonitis. It is probable that this occurs quite early in the course of the disease, and that it assumes a grave form resulting in obstruction of the bowel at a somewhat later time. (3) The relatively motionless omentum is a factor which tends to limit the spread of the infection, and it specially shuts off the cephalic from the caudal peritoneal cavity. It also lies over the ileocolic fold and frequently adheres to it, shutting off the ileocolic from the ileocecal fossa. (4) The intestinal mesenteries and mesocolon are anatomic factors which limit the spread of peritonitis.

Everything which tends to diminish the activity of the factors which cause an extension of the peritonitis may be looked upon as factors limiting its spread. The pain which results secures the utmost quiet of the patient, and the rigidity of the abdominal walls, and the arrest of movements of the diaphragm somewhat lessens the activity of the bowels. The toxemia, again, lessens the discomfort of the patient and quiet follows where agitation might be expected.

In the great majority of cases the diagnosis of peritonitis is simple, prompt, and easy, but there is a series of cases in which from the prominence of one set of symptoms or the absence of another the diagnosis may be obscure, and nothing but a laparotomy or a lapse of valuable time can make the picture clear. The pain of a peritonitis may be mistaken for renal colic, for biliary colic, for lead colic, the crises of locomotor ataxia, for an acute enteritis, for ruptured ectopic pregnancy, for hysteria, for an obstruction of the bowel by hernia or intussusception, for an ovarian tumor with twisted pedicle, for acute dilatation of the stomach, for pancreatitis and fat necrosis, or for a pleuritis or a pericarditis, not to mention the traditional neuralgias of the stomach and peritoneum.

The obstruction of the bowel may be referred to volvulus, to hernia in one of the retroperitoneal pouches, such as the duodeno-jejunal pouch, the ileocolic pouch, the ileocecal, the retrocecal, or sigmoid pouch, or

through an artificial foramen, such as the obturator foramen, the sacrocoecal foramen, the inguinal ring, the umbilical ring, or any number of places where defects occur in the diaphragm and abdominal wall. It may be referred to an impacted fibroid or ovarian tumor, or to adhesions about the stump where such tumors have been removed, or other abdominal surgical operations have been performed. It may be looked upon as a case of intussusception in the young or carcinoma of the colon in the old. If an abdominal tumor presents itself with the obstruction, it may be looked upon as a case of fecal impaction or obstruction of the ileocecal valve with an enterolith.

The toxemia of peritonitis may be mistaken for typhoid, for uremia, for malarial or diabetic coma, for cerebrospinal meningitis, for acute miliary tuberculosis, septicemia, and pyemia.

The distention of the abdomen may be mistaken for gaseous distention due to constipation or fermentation of the intestinal contents, to sudden appearing hysteric distention, and to acute dilatation of the stomach. In patients suffering from chronic nephritis, it may be mistaken for an acute effusion, which sometimes appears as a terminal disease; or it may be looked upon as the result of embolism or thrombosis in the mesenteric vessels in typhoids or persons suffering of amebic disease or anchylostomae duodenalis, or to ascites from cirrhosis of the liver or lesions of the heart.

The treatment of a traumatic peritonitis without infection is a matter of pure symptomatic palliation. The natural tendency is toward complete recovery, or recovery with few or many anatomic defects, which may themselves require subsequent surgical treatment.

The treatment of peritonitis due to chemic irritation cannot be so simply stated. If the chemic irritation is a ruptured urinary bladder, immediate surgical repair is absolutely indicated. If it is due to a ruptured ovarian cyst, it is possible that the patient may survive, and the conditions may be such as to make expectant treatment permissible. If the peritonitis is due to a ruptured ex-

trauterine pregnancy, the indications for a laparotomy are positive.

The treatment of a suppurative peritonitis, or an infectious peritonitis not of tuberculous origin, and presumably due to pyogenic germs, has long been a field of contention between physicians and expectant treatment on the one hand and surgeons and radical treatment on the other hand. The physicians have multiplied remedies and methods of administration, but they have failed to make possible an exclusive and absolute diagnosis of the kind and extent of the peritonitis. If I may be allowed to reduce their method of treatment to the simplest terms, I should say that it consisted in two sorts: (1) Extreme purgation by the use of remedies by the mouth or anus, and (2) its antithesis, the locking up of the bowels and the paralysis of their peristaltic motion with opium and kindred drugs.

The former method prevails among gynecologists and obstetricians, and seems to have gradually receded until it now finds its field only in such forms of peritonitis as arise from sources outside the intestinal tract, and especially from the Fallopian tubes and the uterus. Even among gynecologists it is relied upon not as in any way curative, but only designed to relieve the acute manifestation of the disease and separate by death the operable and hopeful from the inoperable and grave cases. A full argument in favor of the use of saline cathartics and accessory measures in peritonitis is given in Anders' *Practice of Medicine*, 6th edition, page 829.

Fearing obstruction of the bowels due to the peritonitis, large quantities of concentrated solutions of magnesium sulphate or Rochelle salts are given by the mouth, or injected into the rectum, to produce rapid liquid discharges, to keep the intestines in an active state of peristalsis, to dehydrate the peritoneal cavity, and to reduce the hyperemia of the intestines. It is perfectly clear that if this effort is successful the most active factor in the dissemination of the infection is exaggerated. If there is an infectious material in the free peritoneal cavity, it is certainly spread. If obstruction has occurred before the administration of the

purgative, it only adds to the suffering and to the danger of the patient.

On the other hand, the use of opium has been recommended by physicians, and combated by surgeons, in all cases of peritonitis arising from the intestinal tract and its appendages. The opium is given with the idea that by its use one of the most prominent symptoms, namely the pain, is relieved, and one of the greatest dangers, namely the spread of the infection through the peristaltic movements of the bowels, is diminished. The utmost quiet and composure of the patient is thus secured, and time is given for adhesive peritonitis to occur and limit the spread of the disease. Usually from one-third of a grain to a full grain of morphine is given hypodermically every two hours as long as the pain calls for it; but in some cases enormous quantities have been given, amounting to 18 to 200 grains of opium a day. Nothing can be more disastrous than the use of opium in a peritonitis, the source of which has not been definitely fixed or the extent of which has not been positively determined. From the standpoint of the surgeon opium should be used in peritonitis only to relieve pain after operation, or to promote euthanasia when operation is impossible.

The more empirical, and therefore the less scientific, the medical body, the more positive are its statements for the use of one or another therapeutic measure for peritonitis. The homeopathists have a long list of dilutions and triturations which are influential, effective, and curative in all stages of peritonitis. The osteopathists and hydropathists find unfailing methods in their several arts, and even in the regular profession the bishops and cardinals and popes of extensive practice proclaim *ex cathedra* unfailing methods of limiting the spread of infection and of killing the micro-organisms in peritoneal effusions, by lavage, starvation, enemas, and the poulticing of the abdomen in concentrated solutions of boric acid and alcohol. These methods are alike in their irrational basis and pernicious results. They not only kill the patient, but they promote careless diagnosis, faulty if not fallacious methods of rea-

soning, and calamity to the interest of patient and profession.

The surgical treatment of a diffuse, general peritonitis is a hopeless proceeding which the surgeon is obliged to undertake in order to preserve his own sanity and composure in spite of its almost invariably fatal termination. Theoretically and practically every case of general suppurative peritonitis terminates fatally. When, however, the diagnostician has made the relative diagnosis of a diffuse general suppurative peritonitis, the establishment of adequate drainage through the abdominal wall and through the vagina with the obliteration of the atrium of infection, frequently results in recovery. This recovery, however, does not change the theoretical and clinical rule, but simply casts doubt upon the possibility of making an absolute diagnosis of general peritonitis. It may be possible, too, that the resisting power of the tissues of the patient or the self-limited nature of the course of the infection, dependent upon the life history of the microbe, may have something to do with the favorable result. The more liquid the effusion and the less fibrinous, the better the chances are that drainage will be effective. It is impossible to conceive of any adequate drainage when the intestines are covered over a great part of their extent with infected fibrinous exudate.

Some operators have opened the abdomen, found extensive suppuration, sewed up the defect in the gut, removed the appendix or gall-bladder, and then washed with infinite care and enormous quantities of aseptic or antiseptic solution the inflamed and lymph-covered intestines, and have then replaced them, either with or without drainage of the caudal peritoneal cavity, and in a few cases recovery has followed. It would seem that the cephalic peritoneal cavity was not affected in these cases, and that the whole of the caudal peritoneal cavity was either relieved of the bulk of its infection by the operation or by the drainage. Such a procedure as this was described by the younger Johns Hopkins men in 1897, and has been practiced occasionally by gynecologists and



operators with now and then a successful issue. In my own experience most remarkable recovery has followed adequate pelvic drainage, but under no circumstance after the demonstration of a general fibrinous exudate in a general suppurative peritonitis has recovery followed.

The treatment of a supposed general peritonitis consists in such a laparotomy as will lead to the most likely atrium of the infection—to the appendix, to the gall-bladder, to the female genitalia, or to the wall of the stomach in cases of perforating ulcer of the stomach. When the effusion is approached, it is allowed to run off, and the space from which it flows is carefully sponged out with hot, moist, antiseptic sponges, which are immediately thrown away. When all fluid exudate has been removed with the greatest precaution against disturbing the relations of the intestinal wall of the abscess, the intestines are held cephalad or lateralward, with a broad, thick abdominal sponge in such manner as to give access to the supposed atrium of the infection. This is treated when possible by a suitable method, closure of the ulcer, removal of the appendix or drainage and closure of the rupture of the gall-bladder, and drainage is made through the abdominal wound and the vagina in females, and through the abdominal wound alone or through the abdominal wound and the rectum in males. This drainage consists in the introduction of a perforated tube of India rubber ten or fifteen inches long and an inch in diameter. This tube is surrounded with a large drain of antiseptic gauze either introduced with a Mikulicz protecting handkerchief, or with long strips, the ends of which hang over the abdominal wall. When the strips are introduced, great pains is taken to place one in each of the fossæ of the caudal peritoneal cavity, one in the subcecal fossa, one in the ilocecal fossa, one in the ileocolic fossa, and one or more in the pelvic and left ileocolic fossæ. In rare instances it is necessary to drain other abdominal fossæ. The ends of these strips are collected together and marked, either with tags or knotted silk thread, so that the last to be inserted may be first removed. The

patient is kept in the semi-recumbent position, the opposite of the Trendelenburg, during the whole course of the operation, and when the drainage is thoroughly instituted the upper portion of the incision in the abdomen is closed in the usual manner. The vagina should be tamponed so as to allow liberal drainage from the tube without danger of infection, or the anal sphincter is paralyzed and the anus partially filled with gauze protecting the tube into which gauze orthoform has been incorporated, to relieve the pain in the rectum. A rectal tube should be left by the side of the drainage tube to carry away the gas and prevent any infectious material from being forced into the peritoneal cavity.

After the application of a liberal absorbent dressing over the abdomen and perineum, the patient is put to bed in a semi-recumbent position, and given a liberal subcutaneous infusion of normal salt solution. The pulse, the temperature, the character of the urine, and the number of leucocytes in the blood, are carefully watched for indications of a favorable termination. If vomiting continues, and if the pulse remains rapid, if there is great anxiety and sleeplessness, if albumin and casts appear in the urine, if gas fails to pass the rectum, and if the leucocytes continue to increase in number, the progress of the disease has not been arrested, and the prognosis grows more and more grave. If the patient sleeps, if vomiting disappears, if the urine is abundant and the pulse relatively low in spite of a high temperature, a guarded prognosis, with a hopeful inflection, may be given. There is no time from the end of such an operation to the end of the second week when an unqualified favorable prognosis can be expressed. The danger seems to diminish when the fifth or sixth day has passed without positively unfavorable manifestation. Most of the patients die either at the end of the first twenty-four hours or between the fourth and sixth day. Should the patient survive the fifth day, it will be necessary to begin to remove the tampons, or to irrigate the drainage tube with a mild antiseptic, or even to do both these things. The gauze is removed by care-

fully moistening the presenting part of the last introduced roll with an antiseptic solution, and then with the utmost care detaching it by a slight pull toward the right and then toward the left from the edges of the abdominal wound. This gentleness must be practiced not so much to save the patient the pain and the dangerous movements of the body which might result from it as to obviate any breaking up of adhesions between the viscera surrounding the tampon. The greatest skill and appreciative judgment must be used in every slightest movement of the gauze in the course of its extraction. All the gauze ought to be removed by the end of the eighth or tenth day, but under no circumstance should it be extracted with any violence. After the removal of the last pieces of gauze the abdominal wound must be kept open with smaller strips of gauze or with a tube. These must be removed daily and the suppurating sinus kept clean with suitable irrigation. Sometimes these sinuses are very prompt in closing, and at other times they endure for weeks and months, especially if they are connected with the interior of the bowel.

The treatment of a diffuse peritonitis is always conducted upon the presumption that it is a general peritonitis, and the methods of treatment are not different in any particular except when they are limited by the greater probability that this diffusion is limited to a smaller area of peritoneum. When the uterus is the source of the infection, no attempt would be made to drain the cephalic peritoneal cavity or even the ileocolic fossa. If the appendix is the source of the infection, the drainage may be confined to the pelvis, the subcecal, the ileocecal, and the ileocolic fossæ. If it is a perforating ulcer of the stomach, then the drainage would naturally be confined to the cephalic peritoneal cavity.

All operators agree that there is no expectant treatment of peritonitis; that the prime imperative duty of the attendant is to remove or obliterate the source of peritoneal infection at the earliest possible moment, remove the disseminated infection as completely as possible, and place the peritoneum

and the patient in the best possible condition for recovery. There is practical unanimity in the immediate removal of the source of infection. Whatever the other conditions are, the chances of recovery are better with the offending appendix removed or the leaking and perforated ulcer closed than if left undisturbed. The only added risk is the traumatism of the operation. As Joseph A. Blake remarks: "I think that any of the advocates of the treatment by rest will concede that the patient would be much better off with the appendix out if it could be done without an operation. We have simply to weigh the dangers of the additional toxemia of the anesthetic and the shock of operation against the danger of continued infection, both systemic and peritoneal, from the appendix itself or the escape of its contents."

In regard to the next proposition, namely, the removal of the escaped infection, two methods are followed, the dry method and the method of irrigation. The former is slower and probably less complete; the latter is more rapid, but frequently results in the further dissemination of the infection. In the hands of some operators it has been practiced with remarkable success. It has always seemed to me a dangerous procedure. It is probably necessary when drainage is not used.

In regard to the last proposition, namely, the placing of the peritoneum in the best condition for recovery, there are two very divergent opinions which must be considered—the one is drainage, which all operators concede is necessary in some cases, and the other is complete closure without drainage, a method which has produced remarkable results in the hands of some operators. I have changed my opinions and practices in antiseptic surgery too often to deny the possibility of another change, and yet I have never had the hardihood to close up a diffuse suppurative peritonitis after the most complete primary disinfection which I could accomplish and the satisfactory removal of the source of the infection. I am ready to concede that it is desirable to avoid drainage, I admit that the peritoneum has unequaled power of destroying infection, and I recog-

nize that in certain cases I have seen most remarkable germicidal power exercised in this cavity; nevertheless, while admitting the reliability of all that has been published by the advocates of closure of the peritoneum, I still practice this treatment, so undesirable and so prone to encourage complications.

One of the most threatening symptoms of a general peritonitis, or even of a local diffuse peritonitis, is intestinal obstruction due to the paralysis of the muscles of the intestine by the adjoining infection. The obstruction is often so complete, the distention of the gut above the obstruction so excessive, that no amount of drainage is sufficient to overcome it. It is then necessary to treat the obstruction and distention as a secondary condition from an etiologic standpoint, but as an imminent and immediate indication for treatment. The gut must be brought into the wound and a temporary artificial anus formed to allow the discharge of feces and gas and permit the overdistended gut to collapse. This artificial anus adds greatly to the horribly mutilating and disgusting treatment. It increases the suffering of the family, but gives the only possibility of recovery to the patient. As a rule it closes in the course of a few weeks, or it remains and must be treated surgically.

#### Discussion on Dr. Holmes Paper.

I have followed Dr. Holmes very carefully through his interesting and scholarly paper, and have been highly entertained. To discuss this large and important field of surgery from the view point of peritonitis is an excellent way to make it instructive. In regard to the indications for operation in appendicitis, the storm centre of the paper, very much has at different times been said. The position taken by Dr. Holmes, that in undoubted cases of appendicitis it is always safer to operate than not to operate may be called the high ground of radicalism on this subject. From this position there has been some falling away in high places. There are cases that will certainly die operated upon or not. Many cases die that are entitled to live, the main causes of death being slow, bungling work, and especially insufficient drainage. But to operate when there is no chance of saving life brings surgeons into disrepute, and increases the dread of the knife, so deeply rooted in the human mind.

On the other hand, the mischievous practice of waiting and postponing when there is no well-grounded objection to an operation, has caused many more deaths than all the bold and aggressive operating since the appendix first

fell under the surgeon's displeasure. There will, it seems, always be some little difference of opinion on this subject, though every well informed man knows the great danger of leaving a diseased appendix in the abdomen. Dr. Holmes has strengthened me in my views, although I have never quite reached his radical point of view.

**Dr. Bayard Holmes** (closing the discussion.) The remarks of Dr. Burlingame and Dr. Pelton, as well as those of Dr. Bridge, show the spread of the pernicious schism which has swept over the country during the past few years. The origin of this schism, its growth and spread, is a subject which will always interest the medical historian and will ever be pointed out as disclosing a radical defect in the education and character of our profession. It has cost more than the Spanish-American war in the lives of our young people; it has been a source of greater evil to our profession than all the traveling quacks in Christendom.

There is no time in the course of an appendicitis when an operation is not indicated, and there is no time too early to operate so far as the patient is concerned, though there may be a time too late to promise a favorable issue. In appendicitis, as in many other things in this life, it is the early bird that catches the worm.

Let us thank God that medicine has not advanced in America to that cold scientific heartlessness which it seems to have reached in Austria. On returning from Vienna my assistant described to me the daily visits of a celebrated Internalist to his wards. One patient was examined from day to day with a pouting abscess in the right iliac region while he discussed the probability of its being of perirenal or periappendiceal origin. When a general peritonitis had brought the patient to autopsy, such terrible havoc and destruction had been wrought that even the postmortem dissection could not answer the question. To await a demonstration or to await an operation in an interval is unnecessary, criminal and fateful to the patient when early observation has demonstrated an appendicitis.

#### TREATMENT OF PNEUMONIA.

BY CHAS. J. WHALEN, M. D., LL. B., CHICAGO.

I cannot help but feel a natural hesitation in presenting to this society, my views on the treatment of pneumonia. While I have no new method of treatment to advocate, yet I earnestly believe that your experience has been like my own, one of disappointment, in dealing with this grave disease and I have therefore thought it wise to review existing methods if only for the sake of approving some and disapproving others. In my experience with pneumonia I have used all or



nearly all of the many treatments which have been from time to time, suggested. To enumerate them would be a waste of time but it would demonstrate the degree of dissatisfaction that exists among the profession regarding the treatment of this disease. In a word it may be said that where so many radically different treatments are recommended for a disease none are wholly satisfactory. I am therefore forced at the outset of this paper to say that we have no known universal or generally accepted form of treatment for pneumonia. This statement is borne out by statistics which show that the percentage death rate by pneumonia has greatly increased during the last decade and that it has surpassed the great "White Plague" (consumption) in its rate of mortality and it is therefore justly styled the newer "captain" of the men of death. (Bulletin of the Health Department of Chicago).

#### TREATMENT OF PNEUMONIA.\*

Since the beginning of the last great pandemic of influenza in 1889 there have been 33,861 deaths from pneumonia in Chicago and 29,980 from consumption, an excess of 11.4 per cent of pneumonia mortality. During this period, that is the last 13 years, 1890 to 1902 the deaths from pneumonia have increased from an average of 117 in the one hundred thousand of population during the previous 13 years 1877 to 1889 to 179, an increase of nearly 53 per cent. Corresponding figures for consumption are 171 per one hundred thousand in the first period and 160 in the second, a decrease of a little more than 6 per cent. (Bulletin of Health Department of Chicago.)

Chicago's Bulletin of the Health Department for the week ending March 5, 1904, says between November 1, 1903 and March 5, 1904, a total of 2,186 deaths from pneumonia have been reported; they form 21.4 per cent of the mortality from all causes, while 970 deaths from consumption are reported for the same period or 9.5 per cent of the total mortality from all causes. The following table shows the total deaths from

all causes, the deaths from consumption and from pneumonia and the proportion of these latter deaths to total deaths in New York and in Chicago thus far during the current pneumonia season—November 1, 1903 to March 5, 1904, inclusive:

	New York	Chicago
Total deaths, all causes.....	26,195	10,179
Pneumonia deaths.....	5,506	2,186
Consumption deaths.....	2,908	970
Proportion per cent of all deaths—		
From Pneumonia.....	21.0	21.4
Consumption .....	11.1	9.5

The census of the United States of 1900 indicate that 105,971 persons died of pneumonia in the United States during the preceding year, a death rate of 190 per 100,000 population, as compared with the reports of 1870, 1880 and 1890 it shows that the mortality in this disease has markedly increased. And this increase is taking place notwithstanding the fact that the mortality from other infectious diseases is decreasing. Improved sanitary conditions in our city has raised the age limit to a marked extent, as the latest census show that the average age at death has been increased from 31 to 35 years. In our own generation we have seen the mortality of our large cities cut in two and we have also seen the death rate from consumption so much lessened as to make us confident of eventually permanently eradicating the disease, yet in the same period we have witnessed this increased mortality from pneumonia and so marked has been the increase that it has now displaced tuberculosis in its work of death.

It is now quite well known and recognized by the best clinicians all over the world that pneumonia is contagious, the cause being a micro-organism in the sputa of those suffering from the disease and that the malady is propagated by inhalations, such being the case it would therefore seem important in the treatment of pneumonia to insure precautions against the spread of the disease by teaching the general public that there is always danger of contagion from a pneumonic patient. They should be impressed with the fact that the expectoration accom-

\*Read at the 54th Annual Meeting, May 17, 1904.

panying this disease reeks with bacilli and in order to avoid all danger of infecting others certain prophylactic measures should be adhered to.

The same care should be taken to collect and destroy the sputa from a pneumonic patient that is taken in cases of pulmonary consumption. The secretions should always be destroyed by fire. I do not believe that any attempts should be made to destroy the pneumo-cocci by means of antiseptic solutions, they are uncleanly and are usually inefficient and are very much more inconvenient than the measures of the destruction of the bacilli by fire.

The expectoration should be received in gauze or paper which should be preferably burned immediately, and under no circumstances should it be allowed to dry as by this means the pneumo-cocci find their way into the lungs with the respired air. The diplococcus pneumonia may live for long periods of time in the mouth and pharynx of those who have had the disease, it is therefore wise as long as the patient continues to expectorate that the secretions from the bronchial tubes should be destroyed the same as during the active stage of the disease and in addition the patients mouth should be frequently washed with an antiseptic mouth wash. Pneumonia is often begotten by overhousing, over crowding, over eating and drinking and over clothing, all of which tends to lessen the natural vital resistance to the attacks of the myriads of invisible foes that are harmless to the healthy individual. The public therefore should be taught to apply thorough ventilation in offices, factories, churches and houses of public amusements if we hope to reduce the mortality from pneumonia.

In most cases of uncomplicated croupous pneumonia nature unaided is capable of effecting a cure through the compensatory powers of the body for neutralizing pathologic processes. Often, therefore, no therapeutic remedies are required as the disease tends to recover and drugs unnecessarily administered may do harm by interfering with digestion, promoting nausea and vomiting, all of which tends to cardiac weakness. It

is safe to say that pneumonic patients are more often damaged than helped by the poisonous drugging which is still only too prevalent. What is needed in the treatment of this disease is not more drugs but the discriminating and intelligent use of those we have. My rule is to give as little medicine as will meet the indications in each individual case. It being a self limited disease which can neither be avoided or cut short by any known means at our command and may even under the most unfavorable circumstances terminate abruptly without a dose of medicine having been administered. These facts do not mean that drugs and medical treatment are valueless in pneumonia; this would be as absurd as it would be to pour useless and harmful drugs into the patient as soon as the diagnosis is made. Drugs and other remedial measures are indispensable, and if properly used save lives, but they should be employed only when needed. What should be done is to steer clear of therapeutic nihilism on the one hand and polypharmacy on the other or in other words we should treat the patient and not the disease.

#### HYGIENE.

The management of the patient is the most important measure. The institution of intelligent hygiene, of careful nursing, of proper diet and the mitigation of the most distressing symptoms are in order, nothing should be considered too slight or too insignificant in treating cases of pneumonia. The care of the mouth should receive early attention for a foul tongue promotes indigestion which is quite an injurious complication. An antiseptic mouth-wash in hot water two or three times daily will always be appreciated. The surroundings should be cheerful with perfect ventilation, the temperature of the room should be between 68 and 72 degrees F. an abundance of fresh air will do much to prevent circulatory failure; these details should always be looked after before beginning the administration of cardiac stimulants. The tissues can only use a certain amount of oxygen but that ought to be furnished from an atmosphere that is pure and unvitiated. An oil stove

or worse yet, a swarm of visitors in a sick room may be the means of killing a pneumonic patient by robbing him of fresh air and oxygen.

#### REST.

Absolute rest in bed from the very beginning is imperative. The patient should not be allowed to raise himself in bed for food or medicine and the bed pan should be used from the start. Anything that will add to the comfort of the mind and body is a real and valuable aid to recovery. The constant annoying by too frequent sponging, moving, giving food and fussing about the patient is contra-indicated. Rest and sleep are sometimes of far greater value than drugs, therefore a part of any treatment should be to insist on proper intervals of absolute rest of two or three hours and the giving of food and medicine should be so outlined for the nurse that during the 24 hours there should be several periods of absolute rest. All visitors must be firmly refused admittance to the sick room. It is our duty to see that the patient does not kill himself by his indiscretions or his friends kill him by their misguided zeal or that we ourselves snap the slender thread of life in our anxiety to give relief. For there is no other disease in which the idea of combating death presents so active a clinical picture. The condition changes from hour to hour; the time for combat is brief and no matter how severe the odds against life may appear there is always a "fighting chance," hence the temptation for active interference may outweigh ones calmer judgment and the patient may lose through exhaustion that strength which might at the last moment have turned the balance in his favor. While these matters form a part of good nursing yet they cannot be left to the nurse without detailed instructions from the physician.

#### SPONGING.

Occasional sponging of the skin with warm or tepid water is agreeable to the patient and exerts a favorable influence when no drugs are really required. It is a comfort to the patient and in addition it is a satisfaction to the friends as it assures them that something

is being done to make the patient comfortable.

#### ELIMINATION.

Water for drinking purposes should be supplied freely and in order to assume vicariously as fully as possible the function of the incapacitated lung and to prevent the accumulation of toxins the organs of elimination must be kept active. Diuresis is usually maintained by taking freely of plain or medicated water but in case the kidneys are found not secreting sufficiently the subcutaneous injection or an enema of normal physiological salt solution will usually meet all the requirements necessary and because of its beneficial effects on the heart and respiration is a valuable routine measure. At the outset of the disease elimination of the bowels should be promoted as rapidly as possible by means of catharsis, non-effervescing salines or calomel in small doses, frequently repeated is to be recommended, but routine purgation is condemned as it is apt to exhaust the patient.

#### DIET.

Digestion is always slow and imperfect in pneumonia and if food is taken in too large an amount or in any but the most digestible forms it is apt to undergo an abnormal fermentation in the gastro intestinal tract and produce toxins. This adds to the burden of the organs of elimination perhaps already overtaxed in trying to eliminate the toxins peculiar to pneumonia. The diet therefore should be plain and nourishing and easily digestible. Milk plain or peptonized if necessary should be the chief article of nourishment as it gives a maximum of nutrition with a minimum of bulk. From a quart to two quarts of milk every 24 hours is amply sufficient. If the patient tires of milk a similar amount of barley water or broth may be given. Under favorable conditions Matzoon, Kumyss, Beef Tea, Egg Albumen, or orange juice may be substituted; after the crisis in addition to the above a very limited amount of solid food may be allowed.

#### TOPICAL APPLICATIONS.

In the treatment of pneumonia I have given a fair trial to all manner of topical applications to the chest wall. Blisters,



cupping, leeches, hot and cold poultices, ice packs, cotton and flannel jackets covered with oil silk, etc., etc., and I am convinced that they have not the slightest influence on the course of uncomplicated pneumonia, but in cases in which pleurisy is a complication leeches, cupping, blistering, hot or cold applications may be of great value in relieving the intense pain which accompanies the inflamed pleura. As a rule heat is more agreeable than cold but there are many exceptions and the choice between the two should be decided by the patient's comfort. In uncomplicated pneumonia however, for its psychical effect on the patient and friends I believe that a cotton jacket should be applied to the whole trunk maintaining it firmly in place and covering it with oiled silk leaving it on during the entire course of the disease save when an occasional examination of the chest is imperative.

Thompson's experiments to determine the depth to which external applications of both heat and cold could be made to locally modify deep seated body temperature confirms the opinion I have long held regarding the value of topical applications in uncomplicated pneumonia. Thompson W. Gilman, (*Journal of the Am. Med. Assn.*, March 19, 1904) experimented on several patients who had long sinuses resulting from chronic empyema; into these he inserted long stemmed thermometers for a depth of six or eight inches into the thoracic cavity then applying poultices as hot as could be borne (in some instances 130° F.) alternating with ice but in no instance was the temperature of the deeply seated thermometer capable of modification of more than 1-8 of a degree F., but similar experiments repeated on the cadaver show that the intra thoracic thermometers were decidedly influenced, the conclusion is justified that so long as the superficial cutaneous circulation is maintained, the constantly moving blood conveys away either of heat or cold any external application, thereby preventing a deep seated organ like the lung which has also an independent vascular supply from being influenced.

#### ANTIPIRESIS.

Fever unless it causes restlessness and re-

mains permanently high is best left untreated. A temperature of 104 requires reduction as continued high temperature tends to bring about paralysis of the heart. I pay little attention to the temperature unless it gets above 104. If it should be persistently high hydrotherapy is indicated, ice bags to the head and cold sponging of the body are probably the safest measures. Cold tub bath because of the handling required is depressing and often unfavorably influences the pulse and respiration and should therefore not be recommended. Chemical antipyretics are to be disparaged, though of course they may be used as a specific in complicated conditions as for example quinine in malaria. Occasionally a single dose of some antipyretic has been known to give relief allaying pain and headache, reducing the fever and promoting sleep. Continuously administered or given after the second day of the disease they are decidedly injurious. Phenacetine being the least so of any of the cold tar products.

#### ARTERIAL SEDATIVES.

Arterial sedatives are less favored than formerly but still have some advocates. They should be used sparingly and their effects watched. I agree that there is a time at the very beginning of sthenic pneumonia when aconite will do good. Its primary action is stimulating of the peripheral nerve endings. Stimulation of the vaso motor mechanism also a powerful stimulant to the respiratory center. The secondary action is depression to the respiratory center, paralysis of the over stimulated peripheral nerves, pronounced depression of the heart, and reduction of temperature. It is a very toxic drug and can produce death by its toxic effect on the heart muscle. It should be classed among the heart depressants and its use limited to the early stages of sthenic pneumonia. *Veratrum viride*: It effects both the nerves and muscles of the heart, stimulating the inhibitor nerves and paralyzing the muscle. It is therefore not a safe drug to use in pneumonia when the preservation of cardiac strength is important and if used at all it should only be in sthenic cases during

the stage of congestion only. Blood letting is probably a more efficient remedy for lowering the arterial tension than either aconite or veratrum viride, as by this process the toxins are diluted and the volume of blood may be readily restored by saline transfusion.

#### TARTAR EMETIC.

Is now rarely if ever used as it neither shortens the disease, modifies its severity or lessens the mortality in pneumonia. Digitalis; opinion is against its use as a routine treatment. It is indicated only where pneumonia occurs in a patient with organic disease of the heart in which weakness appears or cardiac insufficiency becomes a prominent factor even in such cases; I believe strophanthus is preferable to digitalis, as it effects the heart with equal power and does not contract the peripheral arterioles to the same extent thereby increasing the work the heart has to do.

#### SPECIFIC MEDICATION.

It is a well known fact that this disease varies widely in severity at different times and in different regions. It is comparatively easy in a certain locality or during a particular season to collect data of a considerable number of recoveries from pneumonia which may be attributed by enthusiasts to specific lines of treatment.

Serum therapy, salicylates, creasote, quinine, calomel, potassium iodide, and a host of other remedies have from time to time been referred to as remedies capable of destroying pneumococci in the blood but today the majority of clinicians agree that we have no specific remedy for this disease and that the best results come from rational symptomatic treatment.

#### SERUM THERAPY.

Of all the specific treatments that have been recommended for pneumonia anti-pneumonic serum was the most promising, for it aimed directly at the essential factor of the disease toxemia, and while it might be said that serum therapy of pneumonia is still more or less in the experimental stage yet the results thus far obtained are far below our early expectations. It has certainly not

yielded results in any way comparable to those obtained by anti-diphtheritic serum. While some favorable results from the injections of anti-pneumonic serum have been reported by a number of observers the consensus of opinion is that it is a useless remedy. In all I have used this remedy 16 times, all cases of croupous pneumonia; 5 had complicating pleurisy; 1 complicating measles and in 1 alcoholic; 2 deaths. The symptoms and course of the disease in all these cases differed in no way from cases treated under symptomatic medication, I have therefore abandoned the use of anti-pneumonic serums at least until a more reliable preparation is discovered. I believe however, that our chief relief for an improvement in our present method of treating pneumonia rests in the elaboration of a satisfactory form of toxin and notwithstanding the failures of many observers in the past I believe it will be found.

#### CREASOTE.

Creasote in some form I have used for 11 years in selected cases and since beginning its administration I am inclined to place confidence in it. I find that in some cases it markedly reduces temperature, lessens the severity of the cough and pain and otherwise seems to act beneficially. It is especially valuable in mixed infections. I find that the toxemia is always milder in cases so treated but I am unable to say that the mortality has been materially lessened by this method, because of the severe disturbance of the stomach which may follow the use of creasote or guaiacol internally. I have for several years been applying guaiacol externally, 5 to 10 drops being painted over the chest or abdomen 3 or 4 times a day as the case may require. It may also be given by enema; 10 drops 4 or 5 times daily. Thiocol, a creasote preparation but devoid of its irritating qualities has been put upon the market by Merck, it is well borne by nearly all stomachs in fact often improving the appetite and digestion and is the only creasote preparation that should be given internally. It can be administered in doses from 5 to 20 grains 4 times daily.

## SALICYLATES.

Robert Liegel reports a very remarkable series of 72 cases of recovery of pneumonia under salicylate treatment, 8 of this series had emphysema; 6 cardiac disease and a large proportion were alcoholics. Not only under this treatment did recovery ensue in every case, but the duration of the attack was materially lessened and in no case did crisis occur, the temperature declining after the first day reaching the normal by the 5th when convalescence was established. Taylor reports 25 cases of pneumonia treated by the use of sodium salicylate, the only death was an infant 22 days old. The advocates of this remedy claim that large doses 120 grains a day or 10 grains every 2 hours should be given. I have found salicylates very depressing and they are certainly irritating to the stomach and can therefore only be administered to a small per centage of pneumonic patients and after a thorough trial I discarded it as being a useless remedy in the treatment of pneumonia.

## QUININE.

It was claimed by the elder Flint and by some physicians at the present day that sulphate of quinine in large doses say 20 or 30 grains daily renders the disease abortive and that when this does not follow the disease is often modified to a greater degree than by smaller doses. As I have never seen any benefits derived from the use of quinine either from large or small doses I do not hesitate to condemn it as a remedy for the routine treatment of this disease.

## CALOMEL.

Calomel does not shorten the course of disease. It is an efficient diuretic and laxative and when used early in the disease by promoting elimination often relieves headache and delirium.

## POTASSIUM IODIDE.

H. L. Altschul (Medical Record, March 26, 1904) reports the results of 250 cases treated by himself and colleagues with iodide of potassium with a mortality of one per cent. In all the cases the termination was by lysis, the duration was not shortened, the

temperature never exceeding 104° when treatment begun early; complications never occurred. His method is to give an initial dose of at least 10 or 15 grains increasing it by 5 or 10 grains every 2 or 3 hours day and night according to the severity of the case, until defervescence is well established. In this manner he has in a large number of cases given 10 or 15 hundred grains a day of the iodide in a 50 per cent solution in milk and in one case as high as 1800 grains in 24 hours was given. In passing, I wish to say that I have had no experience with heroic doses of potassium iodide in the treatment of pneumonia. I do believe however, that it requires a more collective investigation to determine whether in reality any progress has been made by the use of this remedy in the treatment of this disease which is attended by so many surprises and the results of which are so uncertain.

## BREWERS' YEAST.

The striking reduction in the cough and temperature and the general improvement of a few cases of phthisis whom I had taking brewers yeast led me to believe that pneumonia might be favorably effected by it. Brewers yeast is rich in nuclein, and nucleinic acid is capable of producing a leukocytosis (Huber) thereby increasing the body resistance. McClintock, Navy and Vaughn (Medical News, May and October, 1893) have shown that the nucleins are powerful germicides and demonstrated that the germicidal quality of the blood is due to them. I have used it in 8 cases of croupous pneumonia and although the prognosis in three cases seemed extremely grave, all recovered. Disease ran the usual course, the symptoms immediately lessening in severity upon its administration. I believe it is worth a further trial. The therapy of fresh brewers yeast has heretofore been applicable only where it can be obtained daily fresh from a brewery. The difficulty of obtaining a fresh preparation which is essential for therapeutic activity has greatly interfered with its use. It is however, a cheap way of applying therapeutics and for this reason it may be given to the very poor. I admin-



ister the fresh beer yeast in beer in order to mask the taste giving three tablespoonsful daily. Under its influence the fever rapidly diminishes and the patient seems markedly benefited. It also seems to be of great benefit in chronic bronchitis of the aged, the expectoration and cough gradually decreasing. Under the names of levulin, levuretin and citcero chemists have put upon the market a dry form which is much more agreeable to the taste and is said to be as fully efficient as the fresh yeast, on this latter point I am not prepared to express an opinion.

#### OPIMUM.

The profession is still at variance as regards the value of opium, while of inestimable value in certain selected cases if used at the right time, it is nevertheless capable of doing incalculable harm and I specially contend against its use. As I consider its routine employment a very dangerous practice in this disease. Only the experienced should administer it and when used much discretion should be applied in its employment. Occasionally it can be used safely in mild cases at the very outset, but it is especially dangerous in the later stages as it will make the respiration shallower and less vigorous thus contributing to the development of cyanosis. It is always contra-indicated when there is severe bronchitis accompanying pneumonia as it suppresses coughing thereby leading to the accumulation of mucus in the air passages in this way interfering with respiration. The pleuritic pain attending pneumonia in some cases is so distressing that it is absolutely necessary to resort to opiates. Occasionally when other remedies have failed it may be necessary to resort to opium to relieve delirium which may accompany the disease.

#### VENESECTION.

Physicians thirty years ago bled in cases of threatened cardiac failure in pneumonia and good results led them to bleed again; this method of treatment is coming more into favor at the present time. While in certain cases venesection has no efficient substitute at the same time the excessive bleeding of former days I hope will never be re-

stored to popular favor, yet the physician who wholly abstains from venesection often deprives his patient of a most valuable remedy. The very old, extremely young, the weak and anaemic should not as a rule be bled nor should it be resorted to in others in whom there is no evidence of obstruction of the pulmonary circulation or increasing toxemia but in the robust when these conditions exist the lance should not be spared.

The symptoms calling for venesection are distended jugular veins, cyanosis and a strong apex beat with a weak pulse showing that the right ventricle is unable to overcome the obstruction in the lungs.

There are two periods in the course of pneumonia when venesection may be of service in the first stage and at a later date when cyanosis and overdistension of the right heart threaten the patient. In robust patients at an early stage the lancet will apparently cut short the disease. With an obstructed pulmonary circulation there is a damming back of the blood into the right cavities of the heart and the general venous system. The breathing is accelerated and labored anxiety is depicted on the countenance. It is here that the opportunity for doing good is often lost by hesitation. As the successful outcome of the case often depends upon the ridding the system as speedily as possible of the poisonous matters circulating in the blood. Free bleeding is the remedy *par excellence*.

While it is claimed by some that late venesection is a mistake in cases where there is rapid invasion of the lung the right ventricle cannot cope with resistance in the pulmonary circulation and is being paralyzed by over distension. I believe this statement not to be wholly true for I have seen patients at this time markedly benefited by late venesection. The patient being extremely cyanosed and unable to speak and scarcely able to breathe, the eyes staring and beads of sweat standing on the face and forehead; the pulse small and scarcely perceptible yet the relief from bleeding was most striking; pulse improved as the blood flowed; the breathing was relieved and when 10 or 15 ounces of blood had been withdrawn all the distressing

symptoms had disappeared. The same results are not to be expected when asthenia has become a prominent feature in the symptoms. In a proper case for venesection the procedure is as follows: withdraw 10 or 15 ounces of blood, this amount will usually be sufficient, more can be removed later if necessary. If the patient bears well the loss of blood the 15 ounces should be withdrawn, if on the other hand the patient does not bear well the loss of blood not more than 10 ounces should be withdrawn.

Venesection is found to be more effective when used with a physiological salt solution. By the former we attempt to relieve the tendency to right sided heart failure and remove a certain amount of toxin laden blood and by the latter we increase the pulmonary circulation, dilute the toxins that remain and increase the oxygen carrying capacity of the blood. Just before resorting to venesection a subcutaneous injection of 20 ounces of physiological solution should be given. The solution is prepared according to Jennings formula as follows:

Sodii Chloratis .....	30 gr.	2.
Potassi Chloratis .....	60 "	4.
Sodii Sulphatis .....	60 "	4.
Sodii Phosphatis .....	40 "	2.66
Aq. Destill. Q. S. ad.....	6 oz.	192.

M. Sig: Use one part of this solution to sixty of distilled water subcutaneously. This is preferable to the intravenous injection because it is slower and the effects more gradual. Before using, the fluid should be warmed to a little above the body temperature. The ordinary antiseptic precaution being taken, the injection should be multiple into the subcutaneous tissues preferably of the chest, thighs or back. Often high enemas of the saline solution may be substituted and when well borne and retained produce equally good results. Indeed high enemas of normal salt solution is now a routine treatment with me right from the inception of the disease. I have repeatedly seen the delirium quickly relieved and elimination through the sweat glands and kidneys promoted, the temperature lessened and the heart markedly stimulated by this method.

It is claimed by some chiefly on theoretical grounds that subcutaneous injections of salt solution would often produce pulmonary oedema, although I have had considerable experience with this method I have as yet not met with this complication but on the contrary in a number of desperate cases I have been inclined to think that it saved the life of some patients when they seemed beyond hope of recovery where the pulse was scarcely perceptible, extreme cyanosis and complete asthenia being present the injection 500 or 1000 c.c. of hot (110° F.) normal salt solution in some instances produced striking results, being followed by gentle warm perspiration free action from the kidneys, a lessening of dyspnoea and delirium, abatement of cerebral excitement and a clearing of the intellect. However, I do not say that pulmonary odema might not occur and it would therefore be well to have instruments kept in readiness for instant bleeding in case the second sound should become too accentuated in quality.

#### STIMULANTS.

Stimulants are not always necessary but often useful and should be reserved until they are indicated. The best indication and the one most difficult to meet in the symptomatic treatment of pneumonia is cardiac weakness which is always manifested by a small weak and faltering pulse, dry tongue, restlessness and delirium. A pulse that is poorly filled and gradually increasing in rapidity until a 120 to 130 or more beats per minute are reached generally calls for a heart stimulant. When the second sound of the heart at the pulmonary orifice begins to grow faint and poorly accentuated failure of the right ventricle is apparent, it is the most valuable sign of heart failure. Alcohol, strychnine, nitro-glycerine, camphor, suprarenalin, ammonia and normal salt solution are most to be depended upon as heart stimulants.

#### ALCOHOL.

Alcohol as a stimulant has withstood the test for the last fifty years and is regarded by most clinicians as the best remedy with which to combat the cardiac weakness of this

disease. It should be used only when the pulse and general condition require it. While it is often of the greatest importance many patients do best without it, but with a feeble dirotic pulse, a dry tongue and a profoundly asthenic condition it is best to give it in the aged and in pneumonia of drunkards it is indispensable. In the former it should be given early and in moderate amounts but in the latter class of cases much larger doses are required. In some instances 15-20 or even 24 ounces a day being absolutely necessary. If a patient sleeps after a little whisky, brandy or champagne or if the pulse becomes less frequent or larger it has done good. It should as a rule be given to the extent of from four to five ounces in 24 hours, in some exceptional cases considerably larger amount may be required, and again in others whisky and champagne or brandy and champagne seems to have a better effect than either alone.

#### STRYCHNINE.

After alcohol our thoughts naturally turn to strychnine, for as a circulatory stimulant it is always efficacious, it is perhaps the best respiratory tonic that we possess; when respirations are exceedingly rapid and shallow and the pulse fast it should be given with a free hand. No specific dose can be recommended, but its administration should be pushed to the extreme limit of safety. Doses varying from 1.32 of a grain three or four times a day to 1.15 of a grain every two or three hours have been recommended. The dose however, should be regulated by the action of the heart, my rule is to give it in as ascending doses of from 1.60 to 1.20 of a grain every 2, 4 or 6 hours as the case may require; careful watch being kept for the appearance of untoward symptoms. In severe cases it should always be given by hypodermic injection. While premature and excessive stimulation may do harm, the opportune employment of this drug may be the means of saving life. Caffein will often be found as a useful adjunct to strychnia.

#### NITRO-GLYCERINE.

Nitro-glycerine is an excellent adjunct and useful when renal secretion is scanty. It

may be given in doses of 1.100th of a grain every four or five hours.

#### CAMPHOR.

Camphor either alone or in combination will be found to be a very valuable cardiac stimulant in threatening collapse or in tiding the patient over the profound depression that often accompanies or follows the crisis. It will also be found very serviceable when pulmonary oedema arises as a complication. It is best given hypodermically dissolved in ether or sterile olive oil in doses of from one to two grains every 2 or 3 hours.

#### SUPRARENALS.

I have treated a few cases with this remedy, the heart responded quickly to its use, cough and expectoration seemed favorably influenced by it but I feel quite certain that it is not the equal of alcohol, strychnia or the normal salt solution as a cardiac stimulant.

#### AMMONIA.

Ammonia sometimes makes a prompt and decided impression upon the circulation, the administration of 15 minims of aromatic spirits of ammonia every half hour has apparently saved life in some instances.

#### OXYGEN.

The value of oxygen inhalations are disputed. It is credited by some with striking though usually fugitive apparent benefit in the presence of lividity of the countenance and blueness of the lips, by others it is thought possible that with other respiratory and cardiac stimulants it may carry a patient through the dangerous stage of the disease, and by still others it is condemned *in toto*. It is true it will not check the progress of the disease and in cases where there is marked cyanosis it is rarely if ever that life is saved by its use, yet there is no doubt but that oxygen is palliative, that it makes the breathing easier, lessens cyanosis and conduces to sleep and in this way it aids in conserving energy and helps to maintain strength and adds to the general comfort of the patient. The trouble is that its use is generally put off too long. It should be commenced at the first signs of restlessness



or cyanosis and given in quantities sufficient to relieve; the administration should be intrusted to skilled hands and the dosage regulated according to circumstances. In severe cases it may be necessary to give it more or less continually for 5 or 10 hours, removing it only when the normal color is restored or to give the patient rest or food; in other cases half an hour's use of oxygen every two or three hours may be sufficient.

#### EXPECTORANTS.

In a general way are contra-indicated as they are prone to disturb the stomach and interfere with the assimilation of nourishment. During the period of dense consolidation when the patient is usually at its worst there is but little material capable of being expelled from the solidified lung, later when the patient is being exhausted by coughing in his effort to rid the bronchi of tenacious mucus it may be well to aid its removal by the use of camphor or one of the ammonia compounds such as the carbonate or chloride or as a sedative expectorant *cannabis indica* may be employed. In exceptional cases in which the expectoration partakes of the nature of a bronchorrhoea it may be well to attempt to lessen it by small doses of atropine sulphate grains 1.150th or by the use of dry cupping applied anteriorly and laterally when the patient is too ill to be turned.

#### SPECIAL SYMPTOMS.

Tympanites should be carefully watched for as it embarrasses the respiratory movements and is as much to be dreaded here as in typhoid fever. It can usually be relieved by giving a noneffervescent laxative or by the use of turpentine stupes or the giving of a stimulating turpentine enemas or the passage of the rectal tube to promote the expulsion of flatus.

#### COUGH.

Cough varies considerably in different cases, usually it does not require any special attention however it may be the most distressing symptom of the disease. For the hard dry cough of the first stage no remedy is so useful as small doses of Dovers powder later when the sputum is viscid ammonia

chloride or carbonate may be given to facilitate expectoration but it should be withdrawn immediately if it causes disturbance of the stomach.

#### DELIRIUM.

Delirium in pneumonia may become a serious problem and require the use of drugs. When the delirium is the outcome of hyperpyrexia it may be controlled to a large degree by cold sponging or the wet pack and failing in these mild internal remedies should be first tried such as bromides, trional, paraldehyde. In a number of cases I have used hyoscin with very satisfactory results. As I have said before I have seen serious conditions result from giving even small doses of morphine in pneumonia, yet in a few cases when all other remedies have failed me in relieving delirium I have waived my objections to opium and have seen the most striking relief follow its use, yet I do not wish to be quoted as recommending it as a universal remedy for the treatment of the delirium of pneumonia.

#### DELAYED RESOLUTION.

Delayed resolution fortunately very rare is best treated by the use of tonics combined with *Pilocarpine* grains  $\frac{1}{8}$  to  $\frac{1}{4}$  three or four times a day, failing in these moderate doses of iodide potassium internally should be tried.

34 Washington st.

#### Discussion.

**Dr. Ethan Allen Gray, Chicago.**—Recognizing that pneumonia is a self-limited disease, it seems to me that the one great factor that we must consider in the treatment is the conservation of energy, and that means not only supporting the heart but also the nervous system, eliminating everything that might cause trouble. Controlling the restlessness by such measures as Dr. Whalen suggested, even the use of morphine carefully guarded, and holding right down to everything which can in any way support the patient, is essential. As supporters I would use morphine, strychnine, and, to a certain extent, suprarenal capsule. I base my statement as to the use of suprarenal capsule on the experiments conducted by Crile, of Cleveland, who studied this remedy with reference to its action on the respiratory and cardiac centers. It is superior to strychnine, which after some hours exhausts the cardiac centers in the brain and results in the death of the patient, whereas, suprarenal extract or adrenalin keep up life almost indefinitely, of course, using that term

advisedly, but keeping the animal alive even under the most adverse circumstances after severing the pneumogastric nerve, and after the loss of much blood. In spite of this, he still was able to keep the animal alive all the way through. In my own work I have followed that very closely. I have used strychnine occasionally, and suprarenal extract persistently, and I have found that even in fatal cases the heart has been supported throughout the entire attack.

It is of value not only in supporting the heart, but it also assists elimination. In children, as well as in adults, I have found that the fever was moderated, and in certain cases where the drug was used in conjunction with general treatment, such as I have outlined, I found that the duration of the disease is shortened. That may be taken for what it is worth, but I have seen cases terminated in five days, and even in three, and, in the main, the condition of the patient has been good.

Another important aid is the use of cold. I say cold because my experience last winter convinced me that the best thing to use is cold. I always opened the windows so that the water in the steam coils froze, but the patient slept without any opiate. In the morning, when the temperature of the room was raised, incident to the physician's call, the patient invariably complained of being short of breath.

**Dr. Whalen**, closing the discussion:—I wish I had time to enlarge on a number of remedies that might be used as cardiac stimulants, and one of these is suprarenal extract, mentioned by Dr. Gray. I have tried it on a number of occasions, and I have yet to convince myself that it is a universal cardiac stimulant. It is not superior either to alcohol or strychnine, or a combination of the two.

Camphor and suprarenal extract are two remedies to which I have devoted a great deal of time during the past few years, studying their action as cardiac stimulants. I believe they are valuable adjuncts, but I must confess frankly that I am not ready to discard other cardiac stimulants for suprarenal extract.

## PRESCRIPTIONS VS. SINGLE REMEDIES.

BY WILLIAM F. WAUGH, A. M., M. D., CHICAGO.

The employment of the active principles in medicine strongly opposes the habit of depending on prescriptions. Given, a remedial agent whose effect is uniform in the nature and the degree of its action, and the physician learns to study his case till he sees the indication for this remedy, and then he administers it until he perceives the effect he desires. If he has correctly estimated the need, and knows the remedy, the result is not doubtful but absolutely certain. His thera-

peutics takes from this a character of precision, of decisiveness, to which no approximation could be had under the old system. Hence, the use of active principles leads to the selection of single remedies for single indications. To give two or more medicines for a single indication would needlessly complicate matters, obscure the result, and hark back to the old idle, vicious system of giving a number of remedies in the hope that some one among them might happen to meet the true indication, which is not really recognized by the prescriber but only guessed at.

Numerous prescription books find ready sale. The most popular work on therapeutics is that which contains most prescriptions. The pocket case records are padded with prescriptions, that the practitioner may turn to them and select a formula that he guesses may fit his case, trusting neither his own knowledge nor his memory. Possibly some retentive memory may hold the formulas for brown mixture, compound cathartic pills and chlorodyne, but the writer does not believe one physician out of ten thousand who daily prescribes these can give the formulas and tell what indication exists for each of the ingredients, and how to ascertain whether the effect of each has been secured, and just enough of the desired effect and no more.

If the practitioner will learn the effects of each remedy singly, so that he can thus recognize it when manifested, he will be an accomplished therapist, far above the ordinary physician. He will not allow a patient in a hospital, under trained nurses, to die of strychnine poisoning and never suspect it until the victim is buried. He will at once distinguish between the phenomena attributable to the disease and those due to any drug that may have been taken. And this does not seem too much to ask of the man who holds the lives of the sick in his hands.

But the use of single remedies to meet single indications does not imply that but one remedy is always indicated at the same time. Disease is rarely so simple. In its causation, its pathologic nature, and its phenomena as they develop, there are frequently more than one indication presenting.

We may therefore administer several medicines at the same time, each to meet its own specific need. We have then to watch for the desirable effects of each, ready to increase, diminish or suspend it, without reference to the other agents given simultaneously. Hence we rebuild the prescription we had demolished, but on a totally different foundation. Instead of a formula for "typhoid fever," we have a combination of one remedy for the fever, another to sustain the heart, a third to disinfect the bowels, a fourth to subdue the tendency to nocturnal delirium, etc. And each of these remedies is given in doses nicely adjusted to meet the needs of that particular person, at that particular time, and is discontinued when the need has passed away. Thus the "prescription" may be varied every day; and is never the same for any two patients. It is a garment cut to fit the wearer, but elastic, expanding and contracting as the abdomen is filled or emptied, thickening as the days grow cool and becoming thinner when summer approaches. The old prescription is a suit of armor; if it does not fit you, and the enemy is at your gate—well, you can run faster without it.

Another step we have taken—a long one—and we must confess, a step backward. In some cases it has been found that the study of the conditions presenting in disease reveals a group of associated phenomena occurring together so frequently than a certain combination of remedies is indicated with corresponding frequency. This has led to the use of certain compounds for many cases. There are advantages and objections to this. The advantages are found in the ease of dispensing and taking a single granule instead of a number. The disadvantages are that the same dose and frequency of dosage is employed for different persons who may not respond similarly to each ingredient. Moreover, the use of these compounds tends to renew in the practitioner the very fault we have been trying to eradicate—the dependence on set and inelastic formulas.

When the physician gets beyond the "a-b abs" of his work and begins to see beyond disease names into disease conditions, the

phenomena of the vaso-motors must impress him with their importance. In all febrile maladies and in a majority of others they are of cardinal importance. We know but little about them—we do not as yet know certainly whether we possess one, or two, or any special sets of vasomotor nerves—but the little we do know is priceless. To many physicians this talk of vasomotors is mysterious—it is Greek or worse—Hebrew—or even Aramaic. But in reality it is simple enough to be explained on mechanical principles.

Take as an example pneumonia: The beginning of the pulmonary inflammation sees an increase of the blood in the pulmonary capillaries—ergo, their caliber is increased, and this means that the vasoconstrictors are weakened, or parietic, since they are unable to maintain the normal caliber of the vessels by normal tonicities. This vasoconstrictor paresis indicates the use of digitalin or strychnine, which directly antagonizes it and restores the normal tone. It comes under the category of foods then, since it imparts to the cells what they require to restore them to the state of normality.

But this state of vasomotor paresis is not universal over the entire body, but only in the "inflamed" tissues. There is no reason to believe that the total quantity of blood in the body has been increased; its distribution has been disturbed, the circulatory equilibrium has been destroyed. As there is too much blood in the pulmonary capillaries, there must be too little in some other vessels. The caliber of the latter is therefore lessened, the vasoconstrictors are too strong for their antagonists, or are in a spastic state. We find that aconitine or veratrine will relax this spasm and restore the circulatory equilibrium by permitting the surplus blood to flow out of the dilated pulmonary capillaries into the vessels which should contain it.

By adopting either of these methods we combat the condition presenting in pneumonia, and accordingly we find one set of practitioners stimulating the parietic vasomotors with strychnine, digitalis or ergot, while another set relax the spastic vessels with aconite, veratrum, antimony or blood-letting. And each rightfully claims that the treat-



ment is of benefit and saves far more patients than does the expectant, do-nothing method.

To the genius of Burggræve we owe the discovery that both principles of treatment may be applied at one and the same time; that we may dilate with aconitine and contract with digitalin at once; and that the results are better than when either of these methods is employed alone. At first sight this doctrine seems absurd—for how can we stimulate and sedate at the same time? But this is perfectly in harmony with the behavior of the cells of the body toward foods. All the supplies for the body circulate equally through the blood; the bone cells appropriate lime, the nerve cells fat and phosphorus, the muscle cells iron, the other cells take exactly what they require to maintain their physiologic balance, and no more. We do not find either taking what may be required only by others. If each takes what it requires to maintain equilibrium, why draw a distinction between foods and medicines? There is none in reality. If the cell will be restored to equilibrium by a particle of aconitine the cell takes up the aconitine; if another cell requires strychnine, it takes it up, because that is what it requires. Hence the blood may carry both to every cell, and each will take up that for which its needs create an affinity; and physiologic equilibrium results. Hence the prescription of aconitine and digitalin together is based upon simple and easily comprehensible reasoning.

Digitalin has besides the important property of sustaining the heart, and this is universally admitted to be a cardinal necessity in the treatment of fevers. In some cases, known as asthenic, there is a greater need for such sustaining, and here it is customary to add strychnine arsenate, completing the celebrated Trinity or Triad of Burggræve. In other cases, known as sthenic, there is need for the heart-action to be moderated, and for the doors of elimination to be opened widely, and for these purposes Abbott added veratrine to the basal aconitine and digitalin, forming the defervescent compound. The indications for one or the other of these combinations occur so frequently

that they are usefully employed in a single granule. In treating fevers it is easy to change from one of them to the other, and back again, as the indications vary from day to day.

Somewhat different in its nature is a combination frequently employed for the relief of pain of a spasmodic character—and very many such exist, like the colics. The agent indicated is the most powerful of antispasmodics, atropine. To this we add glonoin, because it dilates the blood-vessels quickly and allows the atropine to be more rapidly absorbed and carried to the seat of disease. Glonoin relaxes spasm quickly but its effects are evanescent, Atropine prolongs and sustains the effect. To these strychnine arsenate is added, for this reason: Spasm is not to be looked upon as an excess of nervous energy but rather the contrary. When the control of the nerves over any structure is weakened the first effect is spasm, which precedes paralysis. The use of strychnine in appropriate doses therefore increases the control of the nerves over their subject tissues, and in moderate doses combats the tendency to that disordered action that comes from imperfect control, which we denominate spasm. These three remedies therefore form a third triad, and one that is frequently required.

To illustrate the difference between these prescriptions and the older ones, take one purporting to come from one of the most distinguished therapeutists of the day—a man who knows better; for asthma he recommends belladonna, hyoscyamus and stramonium. Each of these contains the alkaloids of the solanaceae, atropine and hyoscyne, in uncertain, variable quantities and proportions. Give any one of them, and you may get the action of atropine or that of hyoscyne, in any degree from none at all to a toxic or even lethal effect. That makes two uncertainties to each—or six from the three.

Now if the physician deems it best to obtain the effect of atropine and hyoscyne together—they are antagonistic over a portion of their fields—why not give exactly as much of each as he deems advisable, instead of

trusting to chance for his results? Of course, the chances are that he will get an atropine effect, little if any modified by the hyoscine, which is generally smothered under its powerful sister. But why not then give the atropine at once in definite doses, whose effects are so well known that the nurse may be directed just when to stop? By this means all possibility of an overdose or an underdose is avoided. All that is necessary to say to her is: "Give the medicine until the patient is relieved; or until she says her mouth is getting dry."

With the combination of three solanaceous galenics it is necessary to add: "But the medicine may not do either, but put her to sleep; it may stimulate or sedate her; and you will have to watch for either of these effects."

Some clinicians may have nurses who can be trusted with such directions; but we have found uncertainty as to the effects to be expected from medicines about the most disastrous lesson that can be taught the attendants of the sick, breeding doubt and timidity as to the drugs and corresponding distrust of the doctor who does not know what his medicines are really going to do. Directions to nurses can not possibly be too simple and easily comprehensible.

#### REPORT TO THE ASSOCIATED CHARITIES OF PEORIA ON "THE PREVALENCE OF TUBERCULOSIS IN PEORIA."

BY S. M. MILLER, M. D., PEORIA.

Chairman of the Associated Charities Committee on the Prevention of Tuberculosis of Peoria.

From January 1, 1893, to August 1, 1904, seven hundred and twenty-five deaths from tuberculosis of the lungs have been reported in Peoria, and over fifty more deaths from tuberculosis of other organs. This number does not approximate the actual mortality from tuberculosis in the city for this period. There are sources of error which reduces the reported number to a point far below the real death rate. The most glaring error is the in-

accuracy of the early records. Thus, we find but one death reported in the six months from October to March, of 1896 to 1897. A second cause of shrinkage is, that of the cases reported under a variety of diagnoses, such as chronic bronchitis, pulmonary congestion and the like, many are undoubtedly cases of tuberculosis, while the deaths reported as due to hemorrhage of the lungs are almost without exception cases of tuberculosis, as other causes of pulmonary hemorrhage are rare indeed. Therefore, we must bear in mind that the statistics given in these tables range below the actual death rate from tuberculosis.

The proportion of deaths from tuberculosis of the lungs to deaths from all causes ranges as follows by years:

1893—7.05% of all deaths were due to tuberculosis of the lungs.

1894—8%.

1895—11%.

1896—9.4%. (Records deficient).

1897—8.86%. (Records deficient).

1898—7.93%.

1899—8.1%.

1900—9%.

1901—10.75%.

1902—11.14%.

1903—9.60%.

1904—10%.

The percentage mortality from all forms of tuberculosis is as follows:

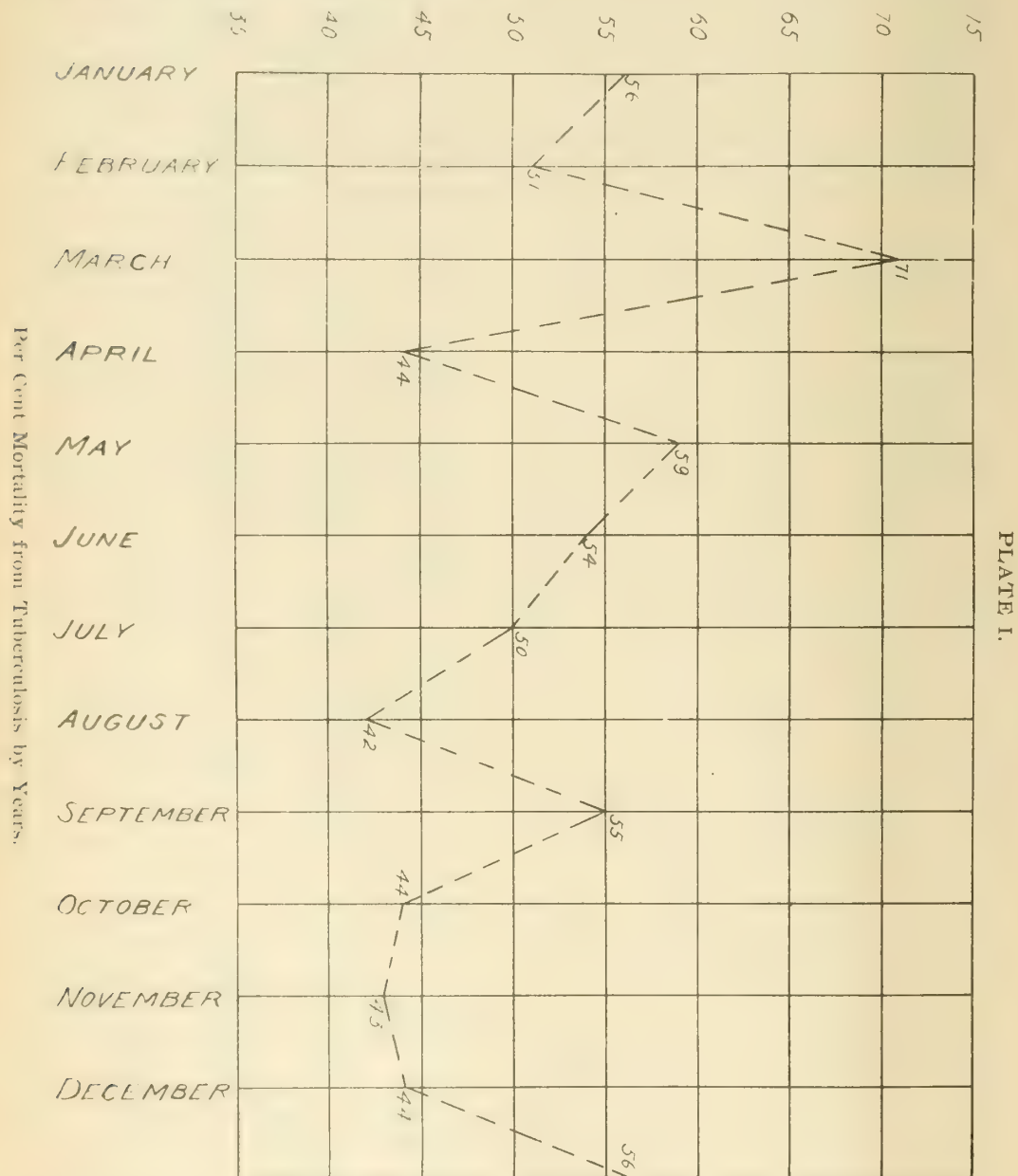
In Peoria.	In the State.
1901—11.12%	.....
1902—11.68	.....11.26%
1903—10.10	.....11.51
1904—10.50	.....

Thus we note the maximum death rate in 1895 of 11%, then a drop for three years, reaching the lowest point in 1898, since which time there has been a steady increase in the death rate from tuberculosis. By making allowance for errors, I believe we can conservatively estimate the death rate from tuberculosis in this city at 10 to 11%, or one death out of nine to ten in Peoria is due to tuberculosis. This is a large mortality from this disease; larger than it should be, considering the readiness with which the number of deaths may be reduced;

it is slightly less than the average mortality from tuberculosis throughout the State, where the death rate ranges from 11% to 11½%.

In 1902, the deaths from all infections ex-

sis; tuberculosis causing nearly three times as many deaths as all the other infections combined. In 1903, these diseases caused forty two deaths against seventy-eight from tuberculosis, a ratio of two of tuberculosis to



cept tuberculosis numbered thirty-two (including typhoid fever, grippe, small pox, scarlet fever, diphtheria and croup) as against eighty-nine deaths from tuberculo-

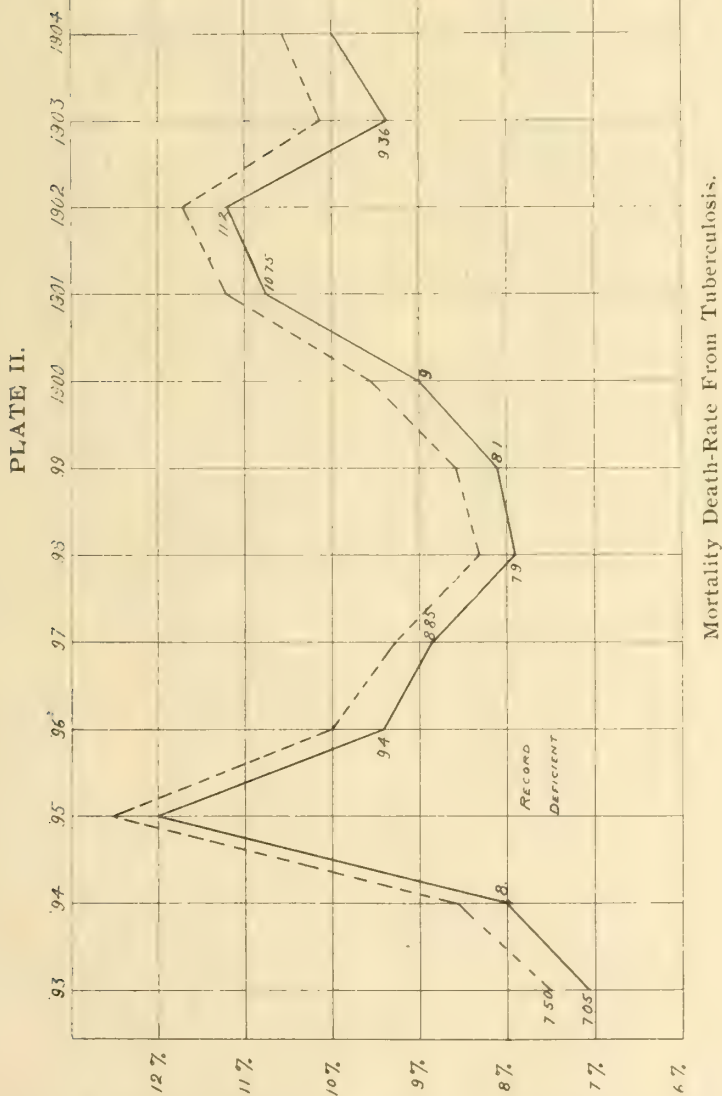
sis; tuberculosis causing nearly three times as many deaths as all the other infections combined. Tuberculosis causes more deaths than any other disease, pneumonia coming second, with about sixty deaths a year. Thus the deaths



from tuberculosis are half again as many as those from all forms of pneumonia. These figures demonstrate to us the jealous care

in controlling them and our utter indifference regarding tuberculosis.

The average duration of the disease in



with which we guard the spread of these other infections and the efficacy of our efforts

fatal cases of tuberculosis of the lungs is one year and six months (Webster), and we may

estimate that there are at the present time from 130 to 150 cases of tuberculosis in this city that will be dead in a year and a half, with heretofore no systematic effort on our part to control this disease.

AGE: The ages at which consumption has claimed its victims are as follows:

From 1 to 10 years	24 deaths.
From 11 to 20 years	73 deaths.
From 21 to 30 years	253 deaths.
From 31 to 40 years	166 deaths.
From 41 to 50 years	108 deaths.
From 51 to 60 years	46 deaths.
From 61 to 85 years	63 deaths.

Tuberculosis carries off three-fourths of its victims at that time of life when they are the most useful to society, and when, as wage earners and heads of families, they are the most indispensable to the maintenance and welfare of the family. It claims its victims in the very prime of life when the loss is the most keenly felt.

This chart was prepared by designating on the map the location of each fatal case of tuberculosis since January 1, 1893, by a red dot, and it gives a comprehensive view of the distribution of the disease in Peoria. It does not show a marked concentration of the disease in districts, but does demonstrate to us how uniformly prevalent the disease is throughout the city. Yet there are certain districts where it has been more prevalent than in others, and we must remember that this map represents only the deaths in a period of eleven years, while the city is over fifty years old, and if we should multiply the sprinkling of red dots by five, we would see a more definite localization of the disease than is shown in this short space of ten years. There is hardly a block that has not had a case and in a number of squares we find five to eight cases, and twenty-eight different houses have had from two to three cases each.

In nine instances I found the cases occurring in different families, i. e., the second case has contracted the disease by living in a house previously occupied by a consumptive.

We note first the relative exemption of the

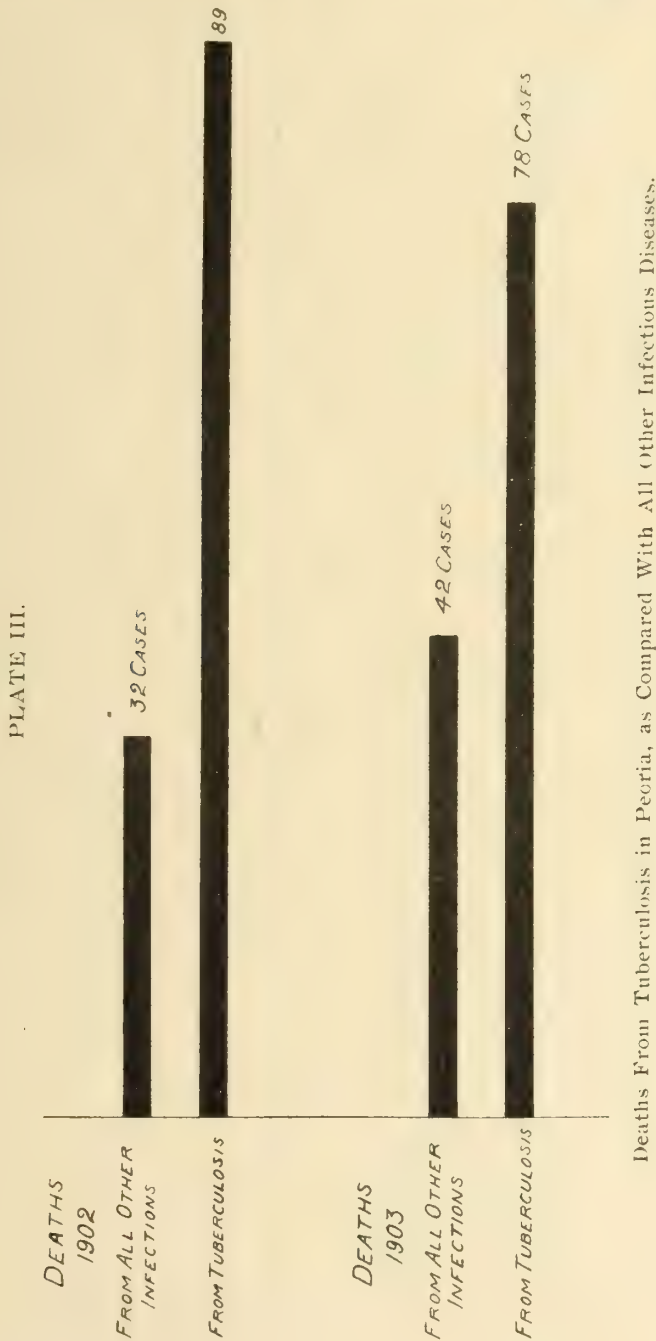
bluffs. Out of seven hundred and twenty-five cases on the map, in the wide area of the two bluffs, comprising two-fifths of the city's area, were eighty-four cases, about one-ninth of all. Undoubtedly the bluffs are more healthful; the air is clear, and free from dust and smoke; the houses are not so closely set together and they are newer. There is more breathing room; there are fewer infected old houses, acting as foci for the spread of the disease.

The district where I find the disease most prevalent is an area around the junction of Lincoln Avenue and South Adams street, within a radius of three or four blocks in all directions. Within this area there have been fifty-eight cases. There is scarcely a new house in this neighborhood. Next to this district that south of Madison, from Hamilton to Wayne, has fostered forty-six fatal cases, while north of Madison again the cases are few, except just under the bluff, on Glendale and the adjacent small streets, where there is a marked sprinkling of the cases.

It is not the number of the deaths particularly that impresses us, though this is far too high. The appalling thing is that the large majority of them are preventable, were we to adopt simple, yet painstaking measures of preventing the spread of the disease and of protecting ourselves against its insidious advances; measures by no means so rigid as we exact for controlling the acute contagious diseases.

THE REMEDY: We must first know who are the living afflicted with the disease before we can help them. Therefore, the first step for us will be to secure the passage of an ordinance, at once, making it obligatory upon physicians to report all cases of tuberculosis to the Health Department, just as the acute infections are now reported. Many objections will be raised, both by physicians and patients until it is understood that no publicity will be attached to this measure, and until it is known that it is our purpose to help, and not to hinder. It is a curious fact that people dread the truth in this matter and dislike to know that they are afflicted with this disease, but are quite content to

suffer so long as they can call it by another name. Nevertheless, this measure is necessary especially of those cases where the hygienic surroundings are bad. Therefore, a second



sary for the public health. This ordinance must further provide for a proper recording of the cases and for a proper supervision,

provision of the ordinance should be, that on receipt of the physician's report of a case, a representative of the Health Department



visit the dwelling and note the following points on a suitable form.

1. Name of the patient in full.
2. Address.
3. Occupation. Does he still follow it; where employed.
4. Civil state. If head of the household or a dependent.
5. Number of persons living in the house.
6. Number of families living in the house.
7. Number of rooms occupied.
8. Does any other person occupy or sleep in the room used by the consumptive, and who?
9. General hygienic surroundings, as size of room, cleanliness, light, ventilation.
10. Previous tuberculosis in the family or house.
11. Would he go to a sanitarium.
12. Habits as regards the use of alcoholic.

Third, the ordinance should provide that the Sanitary Officer give verbal instructions as to the methods of the spread of the disease; the precautions to be adopted by the friends of the consumptive to avoid contracting the disease, especially a warning in regard to the danger from sputum. Suitable sputum cups should be provided. The danger of sleeping in the same room with the sick man should be noted; the necessity of cleanliness of the clothing and the hangings should be impressed upon the family. These same instructions should be distributed in the form of pamphlets similar to those which we have seen used in other cities.

Fourth, the ordinance should provide that the Sanitary Officer should visit each patient at least once a month, correcting as far as possible bad hygienic surroundings and giving additional instructions as necessary until the family in which the disease has obtained a foothold is duly educated.

I recommend that we secure the passage of a second ordinance, making it obligatory upon landlords to properly disinfect, under the direction of the Health Department, and according to prescribed rules, the premises

which have been occupied by consumptives, on their removal or death, and before the dwelling is again used as a habitation, in order that it may be safe, sanitary, and germ-free for the next comer. The danger of contracting the disease from an infected house cannot be sufficiently emphasized. It is estimated that three-fourths of the cases are infected in the home, the remaining fourth contracting the disease in shop or store or other public place.

The ultimate step for the eradication of the disease is the establishment of a sanitarium, where the consumptive may be cared for properly, especially the poor and needy, those inadequately clothed, fed and housed, ill-conditioned physically and struggling to earn a living when absolutely incapacitated for work. A place where the consumptive may be cared for under the supervision of those skilled in combatting the disease; where he will have freedom from a work that was beyond his strength; where wholesome food, abundance of fresh air and sunlight, and proper sanitation will give him his best chance of regaining health. We have abundant evidence that tuberculosis taken thus early in a large number of cases is curable. By this we will accomplish two things. The individual will be restored to the community, with health regained; second, we will prevent the further spread of this disease from this individual by removing him from those surroundings where he is constantly infecting others.

The establishment of a sanitarium should be properly a duty of the municipality, yet it should be aided by those having the desire and means to do a practical philanthropy, for it is both a benefit to the community by safeguarding the general health, and a worthy charity to the poor consumptive.

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**Dr. C. A. David** of 126 State St., Chicago has been sued by one Robert F. Walsh who asks \$20,000 damages. Walsh's attorney stated that Walsh claims he was cut up unnecessarily when he was operated on by Dr. David.

**Dr. Norbury's Sanitarium** located in Jacksonville has been licensed by the State Board of Public Charities.

# ATONIC DILATATION OF THE STOMACH WITH REPORT OF CASES; ALSO METHODS OF TREATMENT.\*

BY MILTON H. MACK, M. D., CHICAGO.  
Professor of Gastro Enterology, Illinois Medical  
College. Associate Professor of Gastro  
Enterology, Chicago Post  
Graduate School.

In this article I wish more particularly to deal with that condition in which there is a permanent enlargement of the stomach, due to atony of the walls, and not to obstruction of the pylorus, and with which there is associated a motor insufficiency to a greater or less degree.

Dilatation is one of the most common conditions found in the diseased stomach. Having had occasion to observe the great prevalence of these cases, and the infrequency of their recognition, I feel that a few words on this subject will not be amiss.

When the ease with which a diagnosis can be made in the great majority of cases is considered, there should be little difficulty experienced by the physician in determining the presence of a dilatation. The point to decide is whether the dilatation is of an atonic variety or is due to obstruction of the pylorus. This, of course, necessitates an extremely careful examination. Osler claims to have made a diagnosis in ten out of thirteen cases by inspection alone, in his wards at Johns Hopkins. These cases do not reach the physician as a rule until certain marked symptoms have made their appearance, thus aiding him still more in his effort at diagnosis. When this stage is reached these symptoms should, at least, lead him to suspect the condition present.

Several methods are at the physician's disposal to aid him in reaching his conclusions of both a mechanical and chemical nature. The chemical analysis showing the nature of the stomach secretions, of which in most cases, there is a decreased amount of the hydrochloric acid, but occasionally an increase or hyperchlorhydra is found.

Many times the stomach contents, when al-

lowed to stand will separate into three layers. I consider this an almost absolute diagnostic point in a case of dilatation.

Furthermore, I have found it more frequently in the atonic form, than in those cases due to obstruction. This, I believe has not been the experience of most physicians, who have made a study of these cases.

It is easy, indeed, to determine the amount of motor insufficiency which exists by the removal of the contents remaining a certain length of time after a test meal, or by the residue found in the morning following a heavy evening meal. Several ways have been devised in a mechanical line to determine the extent of dilatation, and the exact location of the stomach, but I prefer the use of the gyro-mele, to all others because it is accurate regarding the greater curvatures of the stomach. Percussion will have to be used in order to locate the lesser curvature, this can usually be done with great facility following the administration of a seidlitz powder. While it is an easy matter to determine the size of the stomach and its location, it is by no means easy to decide whether this is of the atonic form or due to an obstruction. In order to differentiate between them it is necessary to carefully consider every symptom presented by the patient and to make a thorough physical examination. In the examination, such diseases as cancer, fissure of pylorus and ulcer must be excluded. This done satisfactorily, the subsequent handling of the case will readily suggest itself.

The symptoms present a varied picture. Many cases presenting none whatever are accidentally discovered when examining for other trouble. Of course, I do not consider the abnormally large stomach, megalogastria, in which the functions are apparently normal, under this head. The symptoms may be only that of slight distress, or there may be actual acute pain. Vomiting cannot be considered as a constant symptom in dilatation, although present in many cases. Within the last few years, I have had several cases which have given the history of vomiting attacks, occurring occasionally over a period of from one to two years, then ceasing for a longer period, during which only slight discomfort

\*Read at the 54th Annual Meeting, May 17, 1904.

was felt, and then suddenly developing a very distressful state in which no vomiting was present, but which upon examination, a marked dilatation was found.

Anorexia occurs in most of the cases, and in some respects this is an advantage in the treatment as will be seen later. Bloating, belching of gas and acid eructations are the accompaniments of the fermentation which takes place in those cases having progressed to any great extent.

Constipation makes its appearance in about 60% of all cases. Pain when present may be extremely severe and is generally due to the distension by gas, and the irritation resulting from the fermentative process.

The appearance of the patient is almost as varied as the symptoms, but is generally well nourished. Yet, I have had a few cases, in which the loss of weight was quite marked.

On physical examination it is not infrequent to find the greater curvature of the stomach located just above the pubes. Other cases vary between this and the normal. The lesser curvature may be only slightly displaced, and the gastroptosis not marked. It is the rule to find the liver area contracted considerably. This I do not think due to any inflammation of the liver proper, but to lack of nourishment of the part. Of course, if the dilatation is an accompaniment of a phthisical condition, as is frequently found, there is little difficulty in demonstrating a pulmonary tuberculosis. Disturbances of circulation are often found. The pulse rate varies greatly in different cases. The pulse in one of my cases showing a difference in sitting and standing of 30 beats.

#### CASES.

The following cases will serve to demonstrate this subject:

Case 1. Mr. H., age 44, German, married, presented himself at my clinic at the Chicago Post Graduate Hospital, June 2, 1903. He had been ill some months previous to this time. He gave the following history, pain quite marked at the epigastrium. He had had several attacks of vomiting but no blood was found. There was loss of appetite with occasional returns to the normal,

but during these times he was afraid to eat on account of the subsequent distress. The bowels were constipated, with occasional attacks of diarrhoea. There was considerable bloating, some belching of gas and some acid eructations.

The physical examination showed marked emaciation. The peculiar cachectic appearance of malignancy was apparent but for some time we were unable to locate the seat of the disease.

He had the prominent protruding abdomen so characteristic of dilatation. The greater curvatures of the stomach was found to be about two inches above the pubes. A malignant obstruction at the pylorus naturally was suspected but never demonstrated. The heart area was enlarged, the liver area contracted, superficial veins of the abdomen greatly dilated, showing obstruction of the portal circulation. This patient was placed upon treatment, and in less than two month's time the stomach had contracted to its normal size. The patient had gained in weight and strength, had improved in appetite, but the malignant appearance still remained. The seat of this trouble was accidentally discovered by my assistant in attempting to pass an extra large double stomach tube, the ordinary tube passing quite readily. It was located in the oesophagus about one inch above the cardiac opening of the stomach.

An exploratory incision was advised and declined. The patient disappeared and I was informed of his death some months later. I did not see the post mortem on this man, but understand there was no involvement of the pylorus whatever. This case is reported simply to show what is possible to do regarding the dilation itself, with proper treatment for this condition, under adverse circumstances.

Case 2. Miss W., age 42, female. First consultation June, 1903. Complained of loss of appetite, some nausea, belching of gas, bloating and acid eructation. She was extremely nervous and complained of insomnia. Constipation was present, and there was some pain on right side due to a floating kidney. She had had a hysterectomy one year previous on account of a very large



fibroid. There was slight loss of weight. Pulse was weak and thready. The stomach contents showed a marked decrease in hydrochloric acid otherwise negative. The greater curvature of the stomach was three inches below the umbilicus with slight gastroptosis. The liver area was contracted, the heart area enlarged, and the superficial veins dilated. The treatment extended over a period of six weeks, and a recent examination shows stomach normal in size and furthermore the indications are that the improvement will be permanent.

Case 3. Mr. K., age 43, German, laborer. This case was also of one extreme dilatation like the first, but without any signs of malignancy. The greater curvature was nearly to the pubes, while the lesser curvature was about one inch below the normal. He complained of distress around the heart, and some pain of a very moderate degree. Bloating and belching of gas was present, but no acid eructations. Appetite was good, but nearly all food disagreed. Palpitation marked. Pulse irregular and weak. Patient emaciated. No tumor anywhere. Stomach contents showed decrease in hydrochloric acid and great stasis. After about five weeks treatment the stomach was almost normal, and the patient had improved to such an extent that he felt practically well and disappeared.

Case 4. Miss B., age 18, single, school teacher. I saw this case first in July, 1902. At that time she complained of considerable pain after eating, very acute in character, lasting for several hours. Bloating and belching of gas was present, also some nausea, but no vomiting. Pain was present also during the night, generally before one o'clock in the morning.

The loss of weight was not marked, in fact the general appearance of the patient was good. The pulse varied from 90 to 130 and there was a marked difference between sitting and standing. She was afraid to eat on account of subsequent distress. Constipation was not present. A physical examination revealed greater curvature of the stomach three inches below the umbilicus. The

lesser curvature being in its normal position. Stasis was extreme. A light breakfast taken at eight in the morning could be drawn at five in the afternoon, being only slightly acted upon. There was a deficiency in hydrochloric acid and a marked increase in the acids of fermentation. I treated this case for about one week, when she left for a summer resort and was gone nearly two months, returning unimproved. When she returned to me in September, I found her practically in the same condition as at first. Treatment was begun regularly at this time, and extended over a period of two months, since which time the patient had been practically free from all trouble, with the exception of two or three attacks of pain after indulgence of undigestable food.

Case 5. That this trouble is not a respecter of persons will be shown by the following case, this being a child six years of age.

She came to me with the history of vomiting occasionally, the food having remained in the stomach for two or three days. She had all the symptoms accompanying a condition of this kind, but there was no loss of weight, and no decided pain. On examination the greater curvature of the stomach was found just above the pubes, while the lesser curvature was normally located. While there was a slight subacidity the fermentative process was not as great as should be expected with the amount of stasis present.

Treatment was begun lasting for about five weeks, when the patient to all intents and purposes relieved, the mother decided that no further treatment was necessary, which proved correct for at the present time she seems to be in good health.

Treatment.—The treatment of this condition may be classed under three heads, viz:

- 1st. Dietetic.
- 2d. Medicinal.
- 3d. Mechanical.

The first and third of these are the most important, as to the second very little medicine is necessary. The dietetic treatment

will be considered first, and under this head I have made the following subdivisions.

1st. The proper method of feeding the patient.

2d. The correct time of feeding.

3d. What foods to give and their proper preparations.

Under the first I will say I have tried three methods of dieting.

1st. The one commonly used and advocated by the German physicians of giving small quantities of food oft repeated.

2d. The full feeding of the patient depending on the tube to clear away the residue.

3d. The feeding of one or two meals a day.

The first of these I have tried conscientiously for some time and discarded as unsatisfactory. I found that it kept the stomach in a constant state of turmoil and gave little chance for relief during the day. It seemed to me simply to increase the distress of the patient. In a few cases it appeared to maintain a constant bloating and distress, seldom giving the patient a chance for relief. Also, in drawing off the contents at evening, I was surprised at the amount of decomposed material which came away. I am fully aware in deciding against this method of feeding, that I am going contrary to the generally accepted plan and will be censured by a good many physicians, but I am free to confess that the results obtained from it are not what I should like to have.

In attempting the second method, I soon found it impractical as it kept the patient constantly in distress. The motor power never being sufficient to expell within the proper time any considerable portion of the food, and the task of keeping the stomach clean, was a very unpleasant one to myself, as well as to the patient. This was tried on two patients only, and was discarded without any further consideration. Following this the third method was adopted viz: The feeding of one or two meals daily. With this I have obtained my best results. In the beginning of severe cases, it is well to only give one full meal a day. In the milder cases, where the stomach is able to handle

more of the ingesta, one very light meal can be added. In this way sufficient nourishment can be supplied.

In the cases where one meal only is given, it is usually a generous one, and after the first day or two no difficulty will be experienced, as it will suffice in most cases to appease whatever hunger is present. As has been seen the loss of appetite in the majority of cases is one of the main symptoms, and for the time being aids us at this stage of the disease in our treatment. By this method the stomach has plenty of time to take care of the ingested food, and for absolute rest, which is not obtained in either of the other conditions.

2d. The correct time of feeding. In my judgment after repeated observations the best time for eating when only one meal is given per diem, is about three or four o'clock in the afternoon. The reasons, therefore, are as follows:

1st. By feeding at this hour, the stomach has an opportunity to do the major portion of its work before the patient retires for the night.

2d. If fed in the morning, the patient must pass through the entire day without anything to sustain strength, which is obviated by taking nourishment at the time indicated. If two meals a day are permitted, the second consists of a very light breakfast, about eight or nine o'clock in the morning.

3d. What foods to give and their proper preparations. This is an important question. I will pass over the giving of liquid foods except that of milk with just a sentence. I have found the same as all others who have studied this condition, that liquids are not acceptable to the stomach and consequently interdicted.

Milk, when predigested, is fairly adaptable, and in certain cases I use it quite freely. The selection of solid or semi-solid food depends to a certain extent upon the chemical analysis of the stomach contents. Of course, if the hydrochloric acid is in excess, and this is rare, we have no difficulty in selecting the proteids and albumens such as meats and eggs. The meats should be finely ground or scraped. The blood meat is generally

given rare. Of the other meats permissible, I have had quite marked success with very well roasted pork finely shredded before giving.

But as more often happens should the hydrochloric acid be decreased the task of selecting the diet is much harder. In some of these cases I have gone through almost entire list of edibles indicated only to find that none agreed.

The usual diet given consisted mostly of toast, small amount soaked in milk, or purees of rice and barley and oatmeal. Ice cream is generally accepted in all cases. In milder forms certain vegetables are permitted only when cooked almost to a pulp. Spinach is especially useful owing to its laxative effects. Aside from this I find that baked potatoes will agree when others will not. Add to this asparagus, the tips only, peas and string beans cooked almost to a pulp and the limit is about reached.

#### 2d Medicines.

Few medicines are useful here aside from a tonic, preferably a bitter one, such as strychnine or nuxvomica. Waugh advocates the use of pilocarpin and berberine. As to its efficacy I am unable to give any definite information.

Antiferments, I have tried without results especially in the more advanced cases.

#### 3d Mechanical.

The mechanical methods constitutes the principle part of the treatment. Under this head comes electricity, massage, gymnastics, etc. Electricity has proved unsatisfactory, although it seems I have obtained some help with the high frequency current in one or two cases.

There are several instruments on the market for the giving of intragastric massage, as yet I am not convinced as to their adaptability or efficacy.

#### Gymnastics.

This method is the one on which I depend the most, and consists of the alternate distention and contraction of the stomach by means of heated air passed into the stomach through a double tube, thus allowing it to fill and escape rapidly. This has a very stimulating

effect upon the muscle wall, thereby reducing the dilatation.

#### Lavage.

In conclusion just a word regarding lavage. I cannot help but feel that this procedure is sometimes over done. I will admit that some of these cases need irrigation once or twice daily for a certain period, but judgment should be used, and the ordinary cases should not be irrigated oftener than two or three times a week.

Frequent irrigation can be obviated by the cleansing of the stomach through a double stomach tube with compressed air. Spraying of the stomach with medicines is best done immediately after the cleansing by air or water.

103 State st.

#### Discussion of Dr. Mack's Paper.

Dr. John C. Cook, Chicago:—I feel that a paper that covers so much ground, and that is so well presented, ought not to go without some word of commendation. I wish to call attention to one of the etiological factors not ordinarily taken into account by the profession, one that occurs in childhood. It has become the custom to feed children artificially, and it has been observed that many of these children so fed suffer from dilation of the stomach; more often than those that are fed naturally. That is quite reasonable. Nature provided that the baby's stomach should work and for that reason milk curdles in the stomach, but when they are given predigested food, as is the custom at the present time, the stomach has no work to do, and no contraction takes place; therefore, there is no development of the muscular coats of the stomach, and, hence, the early beginning of dilatation; the muscle is weak and cannot resist the work that the stomach is called upon to do later.

This is very clearly shown by making a comparison of children and calves. Mother's milk curdles in small, flaky curds, that are passed easily through the pyloric valve, without any very great contraction of the stomach. Cow's milk curdles in large chunks in the calf's stomach and produces a greater muscular contraction, which we know is necessary for the future use of the calf's stomach. Nature provides for these things in the beginning and we should take note of it. If the Doctor will take his histories carefully, he will find that many of these cases occur in children who were fed artificially.

I wish to endorse what the Doctor said about the long periods of rest, long intervals between feeding. That is the best thing for the stomach, and, as a rule, that produces the best results in treatment. The stomach must have a certain amount of rest. I believe that authors will not agree with him as to the value of lavage, that it is a better remedy in the hands of some workers than, apparently, it was in his.



## ACUTE INFANTILE MIDDLE-EAR INFLAMMATION.

BY WILLIS O. NANCE, M. D., CHICAGO.

Oculist and Aurist to Cook County Hospital and  
Assistant Surgeon to the Illinois  
Eye and Ear Infirmary.

In directing your attention briefly to the subject of acute otitis media in infancy and early childhood, the writer desires to particularly emphasize four points of especial interest in its consideration, viz.: (1) the frequency of the process, (2) the close relationship existing between acute middle ear inflammation and some of the common infantile disorders other than the exanthemata, diphtheria, and influenza, (3) the diverse symptomatic phases of the disease in adult and in infant life, and (4) the necessity of early recognition of the ear trouble and its rational management.

It is certainly unnecessary to dwell at any great length upon the clinical significance of otitis in general. Every practitioner recognizes the grave influence that middle-ear inflammation exerts upon the function of hearing, and in certain instances, by virtue of anatomical contiguity upon the life of the patient. In addition, if the theory in the light of modern observation is to be accepted there is another element affecting the general systemic economy that is deserving of consideration.

That otitis is of sufficient frequency to merit careful attention is demonstrated by the statistics of Ponfick, Netter, Kossell, and others, who, during the past decade have elaborated much on this feature of the subject. Ponfick's report is of especial interest. In the autopsies of 100 children dead from various diseases, only ten of which were known to have been suffering from ear disease, he found the tympanic cavities and their contents normal in only nine. Barth records the examination of 600 children seen during life and also post-mortem and reports 80 per cent as having lesion of the middle-ear. Kossell in 108 infantile autopsies found the middle ear diseased in 85.

Admitting these figures to be the result of

careful and painstaking observation and scientific research, one cannot but be impressed with the more general frequency of otitis media infantum than has been the accepted belief of the profession in the past. These statistics appear to demonstrate clearly and positively that at least three-fourths of all infants and young children at some period of their existence suffer from middle-ear disease. If these views are to be accepted as orthodox, the subject for this reason, if for no other, resolves itself into one of decided interest.

Again, from a clinical view-point of modern development, the intimate relationship existing between acute otitis and certain infantile diseases affecting the general nutrition, is to be considered. Hartmann, a decade ago, called attention to the concomitant affinity of acute purulent middle-ear inflammation and gastrointestinal disturbances, the former in relation to the latter in the light of causative factor. His initial contribution to the subject, and a corroboration of his views in a second paper published in 1899, point out that latter rise of temperature and reduction in weight in infantile intestinal affections necessitate examination of the ears for presence of inflammation. It will usually be demonstrated that the tympanic-cavities contain pus, which, on evacuation by incision of the drum-membrane, the temperature falls, the digestive disturbances disappear, and the bodily weight increases. Hartmann's observations have been confirmed, among others, by Ponfick, who noted that the faeces became normal in cases of intestinal disturbances in infants in the first and second years, following perforation of the eardrum. The writer has likewise observed the same phenomena in two cases recently in which he had incised the membrane. Ponfick further points out the close connection between these two conditions by citing the autopsies on 35 children dead from gastroenteritis—a part of the series mentioned in the early part of this paper—of which middle-ear inflammation was demonstrated in 33. His explanation of the theory is that the intestinal process is due to the resorption of toxins from the exudate in the tympanic cavi-

ties, which view Hartmann considers quite likely, "since all purulent affections in infant life lead to gastric disturbances."

The acceptance of Hartmann's theory makes necessary the careful examination of the middle-ear in those particular cases of gastro intestinal maladies presenting symptoms to which he especially alludes. Besides gastroenteritis and its allied processes various observers have called attention to otitis media acuta as a frequent accompaniment of broncho-pneumonia, which feature is a not unimportant one, and demands proper consideration.

The symptomatology of acute infantile otitis media presents certain characteristics so different from those signs usually recognized in adult otitis as classical, as to require more than passing notice. In the first place, as is well known, little dependence can be placed on the symptom of pain in infancy, at least up to the eighteenth or twenty-fourth month, the fretfulness or even continued crying is apt to be attributed to distress in some organ far remote. Local tenderness on pressure about or behind the ear is almost as uncertain, and it is well to take cognizance of this fact, as its importance as a sign in adult otitis is generally recognized. The appearance of discharge in the external meatus is naturally positively diagnostic, yet the fact must not be overlooked that, unlike in cases of adult middle ear inflammation, the drum-membrane in infants is much less liable to perforate. This very important fact is due to the anatomical difference between the adult and infantile ear; the Eustachian tube of the latter being so much shorter and wider than that of the adult, as to most generally drain the contents of the inflamed tympanic cavities into the nasopharynx instead of their being closely confined in the limited boundaries and finally bursting through the weak drum-membrane. Besides this, and for the same reason, bulging of the membrane, so common in adult cases, is unusual in infants. Likewise different are the other general appearances of the drum-membrane. In infants, one finds, instead of the redness and thickening so typical of adult otitis, usually an opaqueness or tur-

bidity of the drum-head only and on this appearance, and on this alone, are we frequently called upon to make a positive diagnosis. The writer has observed this phenomenon so often that he has learned to look upon it as almost pathognomonic of the middle-ear process.

The examination of the infantile ear is by no means easy to the in-experienced, or at times, to the expert, yet one can, and must, if he does his full duty to the patient, overcome the obstacles that beset his way. Gentleness and firmness in the manipulation are the keynotes to success in the undertaking. There need be absolutely no pain if the maneuver be properly conducted. The patient should be securely held in the upright position by an assistant. A head-mirror, a narrow speculum, and cotton-applicators are necessary adjuncts. Cerumen and epithelial scales are easily removed. The auricle should be drawn downward and outward, the examiner looking upward, instead of pulling the lobe upward and backward in the adult. It must be remembered, also, that the position of the drum-membrane differs in infancy from that in adult life in that its superior portion lies more horizontal to the upper wall of the meatus. The land-mark by which a positive examination is made is the prominent white short process of malleus; this should always be brought to view or the examination cannot be said to have been thoroughly conducted. Opaqueness or turbidity of the membrane may be considered as quite diagnostic of middle ear inflammation.

The treatment of acute otitis media in infancy and early childhood may be briefly dismissed. Palliative measures are of little avail, and procrastination after a positive diagnosis has been made, is unsafe. The common error and danger of waiting for the membrane to rupture itself has already been alluded to. Instillations of sweet oil, laudanum, solutions of cocaine, and the like are suggested only to be condemned. Anodynes are contraindicated and their employment is dangerous. Early incision of the drum-membrane is rational treatment, and its performance is along the lines of recognized



scientific surgical teaching. The middle-ear cavity is drained of its pyogenic contents, suffering is relieved, constitutional disturbances disappear, and the likelihood of intracranial complications minimized. Moreover, when performed early, the chance of early cessation of the discharge is improved. In the incision of the membrane, the opening should be free; a long incision furnishes ample drainage, and the wound heals as rapidly as if a shorter one had been made. A general anaesthetic is necessary for the operation; ethyl chlorid has proven so eminently satisfactory in the writer's recent experience that he now employs it to the exclusion of all others. After evacuation, a gauze wick drain is employed, and the meatus is carefully cleansed daily.

To recapitulate: (1) Acute infantile otitis media is an exceedingly frequent process, and often unrecognized; (2) the intimate relationship between this condition and gastrointestinal disturbances necessitates an examination of the ears in those cases of the latter when accompanied by loss of weight and latter rise of temperature (Hartmann); (3) the symptoms of adult and infantile otitis differ materially; turbidity of the drum-membrane may usually be demonstrated in the latter; (4) examination of the infantile ear requires a considerable degree of dexterity, and unless thoroughly conducted, is useless; (5) early incision of the tympanic membrane after positive diagnosis of acute inflammation is rational treatment.

#### Discussion on the Papers of Drs. Nance and Pierce.

**Dr. Richard J. Tivnen**, of Chicago.—**Mr. President:** I enjoyed the paper of Dr. Nance very much indeed. It seems to me it is given to few men to be able to say a great deal in a few words. I believe, however, that my friend, Dr. Nance, has succeeded very well in doing this.

Cases of infantile otitis media should command a great deal of consideration. The limitations of Dr. Nance's paper were well taken. I feel that it was necessary for him to define at the outset the boundaries and scope of the subject which we are to discuss. Inasmuch as the field is so wide and the theories are so varied, I feel he has done well to emphasize the more important points in the manner in which he has done.

First, in relation to the frequency of the process. While the percentage which he has men-

tioned seems large on a superficial consideration, yet I believe it can be sustained. The percentage of 75 or 80 per cent. seems somewhat high, and yet from the fact that we so often find unrecognized cases among infants, and are called so often to treat the effects of these diseases, I feel that this percentage can be reduced. In any event, reference to such high mortality statistics has a practical bearing, and we as physicians should be more on the lookout for such troubles than it is customary for us to do.

I wish to refer to another point, namely, the association of this disease with gastro-intestinal disorders, in the light the Doctor spoke of it. He referred to otitis media as being a causative factor. That seems to me, in a measure, a somewhat new view of the matter, and yet when we consider the profound septic conditions that result from the absorption of pus in any portion of the body, we can readily understand how suppurative attacks in the middle ear with absorption of the septic matter will produce general constitutional effects sooner or later. It seems to me that point is well taken too in the light of general results of sepsis.

A third point is with reference to the symptomatology of infantile otitis media differing from the symptomatology of this disease in the adult. I think this point was clearly brought out by Dr. Nance, and it is an exceedingly practical one.

The importance of examination of the ear as a general routine measure cannot be emphasized too much. Having been in general practice myself, I am going to make a confession as well as criticism, namely, that there is an inclination to neglect the routine examination of the ear. I believe we should accustom ourselves to the habit of examining the drumhead in cases of infantile disorders, believing that we would be amply repaid for any efforts made in this direction.

**Dr. Norval H. Pierce**, of Chicago.—I did not hear Dr. Nance's paper in full, but caught enough of it to conclude that Dr. Nance believes that a smoky condition of the drumhead, with pain, is a sufficient indication for incision. Am I right?

**Dr. Nance.**—Yes.

**Dr. Pierce.**—I believe that paracentesis with incision of the drumhead has been greatly abused. When we consider the fact that the middle ear or tympanic cavity and the antrum and pneumatic cells are inseparably connected, we must know that whenever the tympanic cavity is involved in an inflammation, the attic, the mastoid antrum and pneumatic cells of the mastoid process are also implicated, and incision of the tympanic membrane may only release the fluid contained in the middle ear or tympanic cavity primarily, and, of course, secondarily, a portion of the fluid which by gravity may escape through the additus of the tympanic cavity from the mastoid cells. I regard, therefore, bulging of the tympanic membrane as the one principal indication for incision of the tympanic membrane.

The number of children I have seen with



pain and a smoky tympanic membrane, with more or less loss of the anatomical contour of the middle ear, of the anterior and posterior bones, which have recovered without paracentesis lead me to believe that very few of them require paracentesis. When we resort to paracentesis, we open another source of invasion. We must remember secondary invasion through the external auditory canal, and if we substitute for incision a ten or twelve per cent. carbolic acid solution, that is, a solution containing forty-eight grains of carbolic acid, five drops of acetic acid, a dram of alcohol, and enough of it to make an ounce, into which is dipped a strip of gauze one-quarter of an inch wide, which is packed well against the tympanic membrane and held in place by collodin, we will find that these patients get along nicely; the pain will cease almost immediately, and the disease is brought to an end in three or four days, in the great majority of cases, without surgical intervention.

**Dr. William L. Ballenger**, of Chicago.—I did not hear Dr. Nance's paper, but I caught the import of it from the discussion. I think there are things to be said in favor of paracentesis as well as against it. Personally, I do not believe there is so much danger attached to incision of the drumhead as Dr. Pierce would have us believe. On the contrary, I do not believe it is good practice to incise the drumhead simply because there is haziness of it. I have in some cases practiced simple incision where there was bulging of the drumhead, but have never done it for simple haziness of it. It is true that around the border of the drumhead there are numerous blood vessels, sinuses and lymphatic spaces through which infection may occur, but I think clinically we have very rarely seen any great harm come from it, even after the development of a distinct septic process in the middle ear, so that theoretically I would not be opposed to incision for a cloudy drumhead, upon the grounds mentioned by Dr. Pierce, but I am opposed to it because I think it is needless to make an incision that early.

As to the method of treatment by carbolic acid and glycerine solution, there are things to be said against it. Quite recently two or three Eastern men, whose names I do not now recall, have called our attention to the evil effects of the use of carbolic acid in this way. Carbolic acid in the strength mentioned by Dr. Pierce is an irritant. It excites round cell proliferation, which may be so permanent as to remain and form a fibrous thickening of the drumhead at a later period, hence the use of carbolic acid and glycerine for this purpose has its objections. We are liable to impair by its use the usefulness of the drum membrane, and thus we should be careful even in the use of so simple a remedy as a twelve per cent carbolic acid solution in glycerine, in the combination that has been mentioned.

We know in paracentesis the tendency is toward very rapid healing, and the edges of the wound become rapidly agglutinated, so that the danger of infection is very remote, especially

if the incision is limited to the membrane proper, and does not extend to the margin of the drumhead.

I was very much interested in Dr. Pierce's remarks, but I am not wholly convinced that he takes exactly the right view. I have seen cases, for instance, of thrombosis where there was no absolute evidence of a septic clot being present in the sinus, but did not wait twenty-four hours. The septic symptoms are usually so pronounced that I would rather take my chances in these cases of incising the sigmoid sinus and obliterating it than to wait twelve or twenty-four hours for a culture to be made. I recall a case in which two or three physicians were called in consultation. The temperature ranged from 104 degrees down to normal for a number of days. There were pronounced rigors. There was not the doughy texture that Dr. Pierce describes, but in which the portions of sinus exposed were soft. Upon opening the sigmoid sinus we found in the upper portion of it a large septic clot, and in the lower portion of the jugular bulb another large clot, the space between the two being soft and the membrane appearing almost normal. We found also in connection with this case a perisinus abscess or suppuration of the most putrid type. The removal of the clots and examination proved that they were also septic, and had I left the case in this condition for twenty-four hours longer I believe it would have been fatal to the patient. As it was, the patient barely escaped a prolonged illness, and made an ultimate recovery. So I simply mention the fact that there are exceptions, although in the main I would agree with what Dr. Pierce has said, that it is not wise to rashly enter the sigmoid sinus without fairly positive indications, that is, unless we find a septic condition therein.

**Dr. D. N. Eisendrath**, of Chicago.—I would like to ask Dr. Pierce, from the standpoint of a general surgeon, why it would not be a good plan, in case there is a suspicion of thrombus formation in the sigmoid sinus, to make an exploratory puncture of the sinus, and then examine the blood microscopically, which can be done within a few minutes, which will either show the absence or presence of pus micro-organisms, so that too great a length of time may not elapse between the primary mastoid operation and the operation upon the sigmoid sinus? So much more can be gained by this more accurate procedure than by waiting to determine whether or not the mastoid is sufficient.

**Dr. Nance** (closing the discussion on his part)—I desire to thank the gentlemen for their favorable criticisms of my paper.

The remarks made by Dr. Tivnen emphasizing the necessity of routine examination of the ears in certain cases are well taken, and this point cannot be too thoroughly emphasized. Some one has said that from the time of Hippocrates down we, as physicians, have examined the tongue as a routine method in our examinations, without learning much of clinical value, and yet there are cases of middle ear trouble which go on and result oftentimes seriously, in

which no examinations of the ears have been made. The general practitioner should be qualified by a certain amount of experience at least to be able to examine the drumhead, and to examine patients' ears as a routine measure.

With reference to the remarks made by Dr. Pierce pertaining to the question of treating these cases palliatively by carbolic acid and glycerine, or by other methods, or by incision of the drum membrane, I think in the main we thoroughly agree in that regard. The point made in my paper of urging incision of the drum membrane had reference to extreme cases, and not as a routine method, where there was a turbidity of the membrane.

The point I desired to make was this, that one had better not be too conservative along these lines. Undoubtedly Dr. Pierce has seen a great many more of these cases than I have, yet in the experience I have had I can recall a few where I am satisfied the physicians in attendance had been entirely too conservative, where the process had gone on from bad to worse, until paracentesis or incision would have been of very little avail.

Dr. Ballenger has so well answered the other statements made by Dr. Pierce that I do not think it is necessary for me to make any further remarks along that line.

Dr. Pierce (closing the discussion)—After using carbolic acid and glycerine in combination for ten years, I can assure the gentlemen of the Section that there is not the slightest danger in its use for a prolonged time. Carbolic acid and glycerine are not at all irritating; neither are carbolic acid and alcohol irritating. This combination does not thicken the drumhead; it does not tend to form adhesions between the drumhead, or cause ankylosis of the ossicular chain. It is a method of distinct benefit, one far superior to any other known method that I know of in treating the first stages of acute otitis media, either in infants, in children, or adults, and it is a method that can be put in the hands of you gentlemen who have not access to a skilled otologist at all times. If after the use of carbolic acid and glycerine, pain and fever continue, then the indications are at once obvious. You should have a consultation, or if you are skilled enough yourself, proceed with the surgical treatment of the disease.

With reference to Dr. Ballinger's remarks regarding exceptions, I do not place myself in the light of one who tries to place before you laws without exceptions. My paper was for the purpose of protesting against applying to the sigmoid sinus surgical principles which a good many of the Eastern Aural surgeons apply to the sigmoid sinus, and I am convinced that what I have enunciated is sound practice, namely, to wait in those cases of pyemia associated with early suppuration, in which there are no obvious local symptoms of a thrombus in the sigmoid sinus. That there are exceptions, I grant, but the exceptions make the rule.

With reference to the remarks of Dr. Eisen-drath, the idea of exploratory puncture of the sigmoid sinus was touched on. It may be

done, but as we make our puncture in a septic field, it is not without danger. By watching the patient for twelve or twenty-four hours, we get the typical reaction of sepsis, and in the majority of cases there will be plenty of time to thoroughly explore the sigmoid sinus, and, if necessary, the jugular bulb.

## THE SCIENTIFIC STRUGGLE TO CURE PULMONARY TUBERCU- LOSIS IN THE UNITED STATES SINCE 1882.\*

BY HOMER M. THOMAS, A. M., M. D., CHICAGO.

The cause of consumption was discovered by Koch in 1882. Previous to this there was no etiological basis of treatment. Treatment of symptoms was the rule; cure of the cause unknown. Our therapeutic resources were mainly directed in the control of cough, night sweats, diarrhoea, gastric disturbances and efforts to maintain bodily weight. With the dawn of a definite etiological entity we seemed ready to emerge from the darkness of the past into the illumined pathway of the future. Thousands of scientific minds were carried forward by an irresistible enthusiasm for new discoveries.

The distinguished Koch, whose deep scientific research has made his name immortal was among those to suggest a remedy for the control of the disease. No bacillus received greater study. Its biological and pathological characteristics are known throughout the scientific world. We all stood upon a common ground of knowledge of the cause of consumption. Some of the brightest minds made it their life study to seek out a cure for this most prevalent of all diseases. Twenty-three years have now passed in our study of this great problem. It is my purpose to attempt to bring in review the various methods of treatment suggested by many medical writers of this country. This compilation embraces all that has been found accessible in the great libraries of Chicago. The compilation is confined to the methods suggested by American physicians. The chief exception to this is in that suggested by Koch. All the treatments have either originated here or are

\*Read before the Chicago Medical Society, Oct. 12, 1904.

a modification of those suggested elsewhere.

It is probably true that this comprehensive resumé embraces the crystalized consensus of scientific research up to the present.

#### TREATMENTS SUGGESTED.

1. External stimulation by means of application of double jacket..... 1  
T. J. Mays.
2. Intrapulmonary injections of various remedies. .... 6  
T. J. Whittaker, John Blake White, J. P. Loomis, C. W. Ingraham, H. A. Hare, J. O. Hirschfelder.
3. Antiseptic inhalations by compressed vapor. .... 7  
Beverly Robinson, G. W. Johnson, E. O. Otis, George Durand, Austin Flint, Homer M. Thomas, P. J. H. Farrell.
4. Pneumatic cabinet treatment..... 1  
Rollin Brown.
5. The Bergeron Method. (Sulphuretted hydrogen.) .... 2  
A. G. Roeth, W. J. Herdman.
6. Climatic and Dietetic .....10  
Trudeau, C. W. Ingraham, E. L. Shurley, G. O. Place, S. S. Cohen, Karl Von Auck, Wm. M. Beggs, E. O. Hershey, L. Brown, H. Williams.
7. Vaporized medicaments within the respiratory tract..... 1  
Homer M. Thomas.
8. Vaccine virus from cow ..... 1  
J. H. Tindale.
9. Insufflation of powders into the lung. 1  
H. J. Lobinger.
10. Serum treatment (Koch) ..... 5  
Jos. Jones, Wm. Osler, Solly, A. C. Abbott, Koch.
11. Watery extract of tubercle bacilli. (Von Ruck) ..... 1  
Von Ruck.
12. Tuberculocidin (Von Ruck) ..... 2  
Von Ruck, Chas. Dennison.
13. Shurley Gibbs treatment ..... 3  
Shurley Gibbs, E. F. Ingals, Homer M. Thomas.
14. Tuberculocidin (Klebs) ..... 1  
Klebs.
15. Wells sulphide of lime ..... 1  
E. F. Wells.
16. Hydronaphthol (Carl B. Smith) ... 1  
Carl B. Smith.
17. Boardman method ..... 1  
W. S. Boardman.
18. Nuclein ..... 2  
R. W. Wilcox, V. C. Vaughn.
19. Open Air treatment ..... 1  
R. H. Babcock.
20. Immunized horse blood serum ..... 1  
Paul Paquin.
21. Antithisin ..... 3  
F. E. Waxham, H. Longstreet Taylor, Fisch.
22. Creosote ..... 2  
J. R. Conway, J. E. Cobb.
23. Carasso treatment ..... 1  
De Lancy.
24. Hubbard Mitchells treatment ..... 1  
Hubbard Mitchell.
25. Maragliano serum ..... 1  
Francisco Carlucci.
26. Aseptolin (Edson) ..... 1  
Cyrus Edson.
27. Iodoform inunction or Urophen ... 1
28. Oxytuberculin ..... 1  
J. O. Hirschfelder.
29. Churchill's method ..... 1  
T. Blank.
30. Topical applications ..... 2  
G. A. Evans, J. Lindley Barton.
31. Ingraham's method ..... 1  
C. W. Ingraham.
32. Autopneumatic differentiation (Weaver, Chicago) ..... 1
33. Nitrogen gas (J. B. Murphy) ..... 2  
J. B. Murphy, A. F. Lemke.
34. Urea in treatment of tuberculosis.. 1  
H. Harper.
35. Sodium cinnamate, intravenous .... 1  
H. Guttman.
36. Antistreptococcic serum ..... 1  
S. C. Bonney.
37. Subcutaneous injections ..... 3  
J. P. Loomis, C. W. Ingraham, J. O. Hirschfelder.



## PERCENTAGE OF RESULTS.

## KOCH'S TUBERCULIN TREATMENT—Continued.

Stage of Disease	Result.	Physician Reporting.	No. of Cases.	Result.	Physician Reporting.	Total No. of Cases.
1st.. 80% recovered.....	Dr. T. J. Mays.....	55	1st.. 20% arrested.....	First Stage—	Dr. Von Ruck.....	90
2nd.. 40% improved.....			3rd.. 2% died.....	7 apparently cured.....		
				4 greatly improved.....		
2nd.. Conditions not markedly changed.....	Dr. T. J. Whittaker.....	5		Second Stage—	Dr. E. O. Hershey....	328
1st.. 8 recoveries.....	Dr. G. A. Evans....	10	3rd.. 2 deaths.....	109 apparently cured.....		
				107 recovered.....		
No results.....	Dr. John B. White.....	11		Second Stage—	Dr. Carl B. Smith....	31
1st.. Steady and perceptible improvement.....	Dr. A. G. Roeth....	10		14 cured.....		
				Third Stage—		
1st.. 42 recovered.....				8 incurable.....		
3rd.. 5 recovered.....	Dr. Karl Von Ruck..	347		9 deaths.....	Dr. Solly.....	4167
1st.. 105 died.....				(416 cured, 1250 benefited)		
3rd.. 145 died.....				First Stage, 714 Cases—		
1st.. Improved.....	Dr. J. H. Tindale...	6		143 cured.....	Dr. W. S. Boardman..	40
2nd.. Markedly improved.....				337 benefited.....		
1st.. Improvement.....	Dr. H. J. Lobinger.....	26		First Stage, 32 Cases—		
No results.....	Dr. G. W. Johnson.....	40		14 improved.....	Dr. Paul Paquin.....	22
No results.....	Dr. William Osler....	28		18 not improved.....		
				Second Stage, 6 Cases—		
1st.. 95 improved.....	Dr. Solly.....	141		2 improved.....	Dr. H. Longstreet Taylor.....	72
2nd.. 46 worse.....				3 not improved.....		
				1 worse.....		
1st.. 13 got well.....	Dr. Shurley Gibbs..	27		Third Stage, 2 Cases—	Dr. Karl Von Ruck..	44
3rd.. 9 died.....				1 improved.....		
2nd.. 4 worse.....				1 worse.....		
	Dr. E. F. Ingals....	42		50% improved.....	Dr. Hubbard Winslow Mitchell.....	130
3rd.. 14 died.....				Unclassified.....		
1st.. 12 far advanced.....				Unclassified.....		
1st.. 8 improved temporarily.....	Dr. Klebs.....	85		39 cured.....	Dr. O. G. Place.....	8
1st.. 8 disease arrested.....				6 died.....		
				All doing badly; was forced to change treatment.....		
1st.. 14 cured.....	Dr. Klebs.....	130		30 absolutely hopeless.....	Dr. Cyrus Edson....	216
1st.. 45 improved.....				40 practically well.....		
3rd.. 14 not improved.....				60 recovery probable.....		
1st.. 14 cured.....	Dr. Klebs.....	130		8 recovered.....	Dr. J. O. Hirschfelder	65
1st.. 59 improved considerably.....				Cured 10 cases.....		
1st.. 34 somewhat improved.....				212 improved.....	Dr. T. Blank.....	45
2nd.. 23 not improved.....				4 not improved.....		
				1 apparently cured.....		
				3 almost cured.....	Dr. L. F. Flick.....	102
				4 disease arrested.....		
				2 doing badly.....		
				11 probably dead.....	Dr. L. F. Flick.....	102
				15 cured.....		
				16 disease arrested.....		
				15 some improvement.....	Dr. J. O. Hirschfelder	65
				49 died.....		
				11 cured.....		
				29 improved.....	Dr. T. Blank.....	45
				2 improved some.....		
				8 unchanged.....		
				7 worse.....	Dr. Karl Von Ruck...	182
				5 died.....		
				45 unclassified.....		
				First Stage—	Dr. Karl Von Ruck...	182
				26 recovered.....		
				17 improved.....		
				Second Stage—	Dr. Karl Von Ruck...	182
				26 recovered.....		
				11 improved.....		
				Third Stage—	Dr. Karl Von Ruck...	182
				7 recovered.....		

## KOCH'S TUBERCULIN TREATMENT.

Result.	Physician Reporting.	Total No. of Cases.
First Stage, 309 Cases—	Dr. Von Ruck.....	1339
— improved.....		
48 apparently recovered.....		
3 disease arrested.....	Dr. Von Ruck.....	1339
Second Stage, 139 Cases—		
73 recovered.....		
43 disease arrested.....	Dr. Von Ruck.....	1339
23 improved.....		
Third Stage, 117 Cases—		
41 recovered.....	Dr. Von Ruck.....	1339
24 improved.....		
23 arrested.....		
29 died.....	Dr. Von Ruck.....	1339
Dietetic, Climatic, Hygienic, 1030 Cases—		
35.5% of 379 recovered.....		
27.5% of 379 improved.....	Dr. Von Ruck.....	1339
38.0% of 348 recovered.....		
48.0% of 348 improved.....		

KOCH'S TUBERCULIN TREATMENT—*Concluded.*

Result.	Physician Reporting.	Total No. of Cases.
First Stage— 2 recovered..... 3 almost recovered..... Balance greatly improved.....	Joshua Lindley Barton.....	12
16 cured..... 36 much improved..... 6 slightly improved..... 6 unchanged..... 1 worse..... 5 died.....	Dr. J. O. Hirschfelder.....	70
First Stage, 21 Cases— 90% cured..... Second Stage, 14 Cases— 50% cured..... Third Stage, 15 Cases— No cures.....	Dr. C. W. Ingraham.....	50
1 died..... 2 improved..... 7 worse.....	Dr. F. E. Waxham.....	10
First Stage— 19 cured..... Second Stage— 28 cured..... Third Stage— 16 cured..... 7 improved..... 3 died..... 2 unreported.....	Dr. W. H. Weaver.....	56
Third Stage— No cures..... Second Stage— 6 improved..... First Stage, 37 Cases— Nearly 80% cured.....	Dr. W. H. Weaver.....	46
Unclassified, 52 cases..... Unclassified, 350 cases.....	Drs. J. B. Murphy and A. F. Lemke..... Drs. J. B. Murphy and A. F. Lemke.....	52 350
First Stage, 20 Cases— 20 recovered..... Second Stage, 37 Cases— 27 recovered..... 7 improved..... 3 improved..... Third Stage— 3 recovered..... 9 improved..... 7 improved..... 2 died.....	Dr. Karl Von Ruck.....	78
First Stage— 6 cured..... Second Stage— 3 improved.....	Dr. H. Harper.....	9
1 cured..... 10 improved..... 14 no results..... 8 deaths.....	Dr. H. Guttman.....	33
Unclassified, 25 cases.....	Dr. S. C. Bonney.....	25
1066 cases— 355 cases well..... 62 arrested..... 43 relapsed..... 53 chronic..... 55 dead..... 258 cases— 172 cases well..... 52 dead..... 563 cases— 140 cases well..... 283 dead..... 235 cases— 40 advanced..... 200 dead.....	Dr. Lawrason Brown.....	1500

## Antiseptic Inhalations—

Cured.....	77
Improved.....	57

## Bergeron Method—

Improved.....	10
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## Climatic and Dietetic—

Cured.....	1218
Improved.....	1632

## Serum—

Cured.....	904
Improved.....	423

## Intrapulmonary Injections of Various Methods—

Cured.....	86
Improved.....	355

## 'Shirley Gibbs' Method—

Improved.....	35
Cured.....	12

## Internal Treatment—

Cured.....	8
Improved.....	100

## RESUME OF GENERAL RESULTS.

(Total number of cases, 10218.)

## STAGES OF DISEASE.

Recovered.	Arrested.	Fatal.	Negative.
1st.....1333	1st.....705	1st.....137	1st.....7
2nd.....1268	2nd.....135	2nd.....1981	2nd.....437
3rd.....154	3rd.....40	3rd.....975	3rd.....434

Cases reported but unclassified or unaccounted for...2592

1884, Dr. T. J. Mays, of Philadelphia, advocated external stimulation in treatment for increasing molecular and cellular motion. Controls the disease by influencing and strengthening the healthy tissues which surround the disease. Apply with a double jacket designed by the chest. Inside lining of jacket cotton wool. Lining moistened with water, heated before applying, connected with rubber tube to admit steam from boiler or stove. This acts as a hot pack. Treatment continued during 1885 to 1897. Results: First stage, 60 per cent recovered; whole number of recoveries averaged 80 per cent in first stage.

In 1885 Dr. Beverly Robinson, of New York, suggested as a treatment, first, increasing alimentation; second, continued antiseptic inhalation of creosote and alcohol from mask; third, intrapulmonary injections. Results of treatment not given.

In 1885 Dr. T. J. Whittaker, of Cincinnati, reported 5 cases treated by the intrapulmonary injection of bichloride of mercury, from 1-32 to 1-8 of a grain, daily, to a depth of

from two to four inches in the lung tissue. Patients inhale from an atomizer a solution of bichloride of mercury and common salt three times daily. His theory is that tuberculosis is a mycosis. Results: Condition not markedly changed. In 1885 Dr. H. Williams, of Boston, favored the climatic treatment of phthisis, and influence of sea air as against mountain air. The relative value of sea air and mountain air for tuberculosis is summed up as follows:

#### SEA AIR CONTAINS.

1. Maximum amount of oxygen and highest degree of atmospheric pressure.
2. Maximum amount of aqueous vapor.
3. Maximum amount of ozone.
4. Minimum amount of organic impurities.
5. Small quantities of saline particles, iodine and bromine.
6. More regular variations of barometric pressure.
7. Minimum diurnal variation of temperature.

#### MOUNTAIN AIR CONTAINS.

1. Minimum amount of oxygen lowest degree of atmospheric pressure.
2. Minimum amount of aqueous vapor.
3. Excess of ozone.
4. Diminished amount of organic impurities.
5. Great and irregular variation in barometric pressure.
6. Maximum diurnal variation in temperature.
7. Lower in temperature.
8. Less obstruction to passage of sun's rays.

In 1886, Dr. G. A. Evans, of New York, suggested the value of local treatment with a new instrument, the object of which was, first, mechanical expansion; second, topical application instrument and air condenser forces vapor into the air passages. His mixture consisted of 10% solution of carbolic acid crystals, 5% of borax, and 18% of glycerine. He reported ten cases treated, with 8 recoveries and 2 deaths. Of these, 5 cases had pulmonary consolidation, and in 2 there was softening. In 1886 Dr. John Blake White reported 11 cases treated by intrapul-

monary injection of carbolized iodine in doses of from 20 to 30 minims. No results given. In 1887 Dr. White claimed that his post-mortem findings proved, first, that the injections entered the pulmonary cavity; second, no harm was done; third, post-mortem findings demonstrated the local value of intrapulmonary injections.

In 1887 Dr. Edwin O. Otis, of Boston, urged treatment by inhalation of antiseptics by compressed air vapor. This inhalation consisted of carbolic acid,  $1\frac{1}{2}$  oz.; borax,  $\frac{1}{2}$  dram; glycerine,  $\frac{1}{2}$  oz., and distilled water, 4 ozs. Another formula consisted of compound tincture of iodine, 7 minims; tincture conium, 15 minims; glycerine, 4 drams; water, 4 ozs.

*Conclusions:* (1) Inhalations should be given three times daily, 15 to 20 minutes each. (2) Patient learns to breathe properly. (3) Correct bodily carriage. (4) There is but little difference as to what antiseptic we use. (5) In advanced cases no improvement, but sometimes amelioration of symptoms. In incipient cases, some real improvement.

In 1887 Dr. Rollin Brown, of Brooklyn, advocated a pneumatic cabinet treatment, the object of which was to convey to the site of the morbid process its chemical antidote. It was not doubted that the treatment will convey medicine to the diseased areas, but there was much doubt as to whether the remedies used constituted a chemical antidote. The antiseptic used was iodine.

In 1887 Dr. A. G. Roeth, of Boston, presented the Bergeron method, which was reported the previous year before the French Academy of Medicine by its author. This method was the use of sulphuretted hydrogen injected per rectum. It was found by experiment that this gas was afterward eliminated by the lung. Ten cases were reported in which there was steady and perceptible improvement, and amelioration of symptoms in all cases. The time of treatment was one month. Gas was administered twice daily, before meals, in the morning and evening.

Dr. W. J. Herdman, of Ann Arbor, Michigan, claimed the truth of this theory had been proved by experiment. The effects produced, first, a diminished, if not entire sup-



pression of cough; second, suppression of night sweats; third, modification in quantity and quality of expectoration, and checking of pulmonary suppuration; fourth, temperature often reduced to normal; fifth, improvement of appetite, digestion and general health, with a gain in weight. The patient sleeps better, and there is subsidence of nervous symptoms. Sixth, auscultation shows disappearance of moist bronchial râles. There is evidence of healing of lung tissue. Seventh, marked amelioration of all symptoms. (The editor of the journal of the American Medical Association says that the physician who does not try this treatment in any given case of consumption exposes himself to the charge of culpable negligence.)

In 1887 Dr. Geo. Durand, of New York, advocated the antiseptic treatment by means of an inhaler worn while up or sleeping, in which is a pad saturated with carbolic acid. He claimed remarkable results in either the recovery or marked benefit in all of his cases, except those in the third stage. In 1888 Dr. Austin Flint advocated inhalation of creosote, alcohol or chloroform, through a modified inhaler, and followed it with general hygiene, and constitutional medication.

His results were improvement in weight, night sweats, temperature, cough and expectoration.

In 1889 Trudeau reached the conclusion that the therapeutic value of hot air inhalations was doubtful. Inhalations of heated air can neither prevent nor diminish the virulence of bacteria in the lungs of living individuals when they have gained access thereto.

1889. Karl VonRuck climate—Dietetic and some general therapy. 243 cases from private practice.

Management and Climate.	Number of cases.....	Recovered. Percent.....	Improved; still alive. Percent.....	Died.....	Percent.....
Treated at home; early stage.	94	3 3.2	2 2.2	89	94.6
Treated at home; advanced stage	88	1 1.1	0	87	98.9
Sent away for climate; early stage	17	4 23.5	1 5.8	12	70.0
Sent away for climate; advanced stage	44	2 4.5	2 4.3	40	90.9
Total	243	10 4.1	5 2.0	228	93.8

58 cases treated in Sanatorium in same locality without climatic advantages.

	Number of cases.....	Recovered. Percent.....	Improved; still alive. Percent.....	Died.....	Percent.....
Early stage.....	32	19 59.3	9 27.5	4	12.8
Advanced stage.....	27	5 19.2	5 19.2	16	61.5
Total.....	58	24 41.5	14 24.1	20	34.5

29 cases in special institutions in Asheville, climatic conditions favorable.

	Number of cases.....	Recovered. Percent.....	Improved; still alive. Percent.....	Died.....	Percent.....
Early stage.....	3	3 100.0	0	0	0
Advanced stage.....	26	9 38.4	5 19.2	2	7.7
Total.....	29	12 41.3	5 17.2	2	7.0

Therapeutic Gazette, dietetic, volume 5, 3rd, page 505.

1890. Experimental work on the penetrability of vaporized medicaments within the respiratory tract, by Homer M. Thomas. Guinea pig lungs from City Hall and from Akron, Ohio. Nitrate of silver inhalations. Dog demonstration. Human lung experiment at Cook County Hospital.

*Conclusions:* Nebulized medicants reach pulmonary alveoli of animal and human lung when so prepared as to be easily respirable. First demonstration of the fact. Weakness of treatment: Strong in mechanism, but weak in therapy. Will not reach tubercular foci.

J. H. Tindale, New York, treated six cases with vacine virus from a cow. Reported before Koch's report. Results: (1) Patients improved. (2) Expectoration lessened or stopped, absence of bacteria and sputum, and temperature normal.

H. J. Lobinger, New York; insufflation of a compound powder into the lungs by means of a powder inhaler, based on calcium phosphate in solution in water.

Koch's serum. Dose in adult .901 c.c., given daily until no reaction results, then .002 c.c., or even .005 c.c. results.

Patients general symptoms improved. Expectoration diminished or ceased. Patients under treatment in first stage cured. Patients with cavity, not too highly developed, improved, almost cured. Lungs with large cavities not improved. Place of injection, between shoulders in back. Pathology: Destruction of tubercle bacilli in tissues.

Dose: Small at beginning, increased if no reaction up to 35 to 40 mg. Results: No cases cured; 5 decidedly benefited. In no case did bacilli disappear from sputum. Cough reduced in frequency in all cases. Of remaining 17 cases, 9 left hospital worse for treatment, 2 died later, 7 unheard from, 4 remained stationary, and 4 slightly improved.

Food in treatment. S. S. Cohen, New York. Pathology. By tuberculosis is meant a disease of the whole system; an aberration of the nutrition. Remote causes are heredity, unhygienic surroundings, previous debilitating diseases, and improper breathing.

Treatment: Carefully prescribed, yet generous, diet, given often if digestion is good, and assimilation kept up. Especially one quart of milk, or one pint of it, and one pint of cream in twenty-four hours. Alcohol in febrile cases is a food. Cod liver oil when necessary. Water freely, especially hot, one pint before meals. Digestive apparatus is not to be burdened, yet over-feeding is the object. For those unable to be out-of-doors compressed air inhalations are of value.

1891. Patients treated at Adirondack Sanatorium, New York, or 90 per cent cured in the first stage. In 1899 Dr. Mays suggested silver nitrate over the vagus nerve. His reason for this therapeutic change was that lining lesions which are found in pulmonary consumption do not represent primary morbid changes in this disease; they are one of the series of the superficial manifestations which are fundamentally dependent upon a neurotic basis, in which the vagi are seriously involved.

He believes that the rational therapeutics rests on the nervous pathology. Injection of silver nitrate is a stimulant to arouse them from their abnormal condition. In 1903 Dr. Mays reported 55 cases treated by this method, in which 20 per cent of the number

had the disease arrested; in 40 per cent there was improvement, and 27 per cent died.

1891. Koch's serum; Joseph Jones, New Orleans. On receipt of a small vial of Koch's lymph from President Harrison, for use in Charity Hospital, New Orleans. No cases treated for want of proper ones and consent of patients, and because so little was known as to the actual working of the lymph.

Experimental work, with the following conclusions: (1) Active principles of Koch's lymph appear to reside in a colloid nitrogenized compound, coagulable by absolute alcohol and in living germs, microorganisms, spores and bacilli, similar to those of tubercle bacilli multiplying in and without the living organism. (2) Potent effects of Koch's lymph introduced into the blood of healthy or diseased animals, referred, in part at least, to rapid multiplication and action of microorganisms similar to or identical with tubercle bacilli. (3) Results of chemical and microscopical examination of lymph make him exclude it from remedial agents.

1891. Antiseptic vapors. G. W. Johnson, Chicago. Vapors of oil eucalyptus, cloves, creosote, and general dietetic and constitutional treatment; forty cases showing improvement in four months; lessening of symptoms, fever, sputum, night sweats, etc.

1891. Koch's tuberculin. A. C. Abbott, of Baltimore, claims (1) its value as a diagnostic agent; (2) its action in surgical tuberculosis; (3) its value in pulmonary cases; cures in the early cases in from four to six weeks.

1891. Koch's treatment of tuberculosis. William Osler, Baltimore; 28 cases in Johns Hopkins Hospital; 22 of pulmonary tuberculosis; 3 cases of pleurisy suspected to be tubercular; 2 cases for diagnostic purposes; negative results. One case thought to be tuberculosis found to be cancerous adenitis.

1891. Solly, Colorado Springs; 141 cases treated. First stage, 62 cases; cured, 36, or 58.04%; greatly improved, 14, or 22.93%; improved, 4, or 6.45%; worse, 1, or 1.61%; death, 7, or 11.29%.

Improved, 54, or 87.095%; worse, 8, 12.90%.

Second and third stages, 79 cases. Cured, 11, 13.92%; greatly improved, 14, 17.72%;



improved, 16, 20.25%; worse, 2, 2.53%; died, 36, 45.56%.

Improved, 41, 51.89%; worse, 38, 48.10%.

Totals: Improved or cured, 95, 67.37%; worse, 46, 32.62%.

1891. Shurley Gibbs treatment. Theory: Phthisis pulmonalis, a disease located in the pulmonary organs. An inflammatory process of greater or less extent resulting in permanent or destructive changes in tissues, accompanied by production of deleterious chemical substance which set up constitutional disturbances and exhaust vital forces. Idea to find something to combine with these toxalbumoses, or whatever they are, and arrest the disease process. To this end the author found *chlorine gas*, iodine, ammonia iodide, potassium iodide, *double salt or chloride of gold*, etc., did good service. Sodium chloride, and plus those underscored best. They must be cured. Gas liberated by lime and hydrochloric acid; air saturated with sodium chloride first, 2 dr. Seldom over 6 drams of lime, 1 to 3 drams of acid. First sitting, two minutes; later, up to twenty or thirty. Breathing through nose lessens coughing.

Effects: Seems to prevent further caseation, as seen by changes in sputum, and alteration in physical signs.

Injections: Iodine, begin gr. 1-12 daily, increase to gr.  $\frac{1}{2}$  or 1; then gold and sodium, gr. 1-30 to 1-20 daily up to 1-3; then diminish to 1-10 gr. Twenty-seven cases treated; no classification; general improvement and cures.

1892. Shurley Gibbs treatment. Twenty-seven cases treated; 13, or 48.14%, practically well; nine, or 3.33%, died; 4, or 14.8%, worse; 1 unheard from. Of the 13 practically well, 8 have remained in Northern homes, and 5 gone to warmer climate. Thirty-two more cases reported, treatment not varied, except in dosage, adapting it to cases, January 1st to January 1st. Summary for the months ending January, 1902: So-called recoveries, 13; improved, 9; not improved, 3, and died, 7.

1892. E. F. Ingals. Shurley Gibbs treat-

ment. Reports 42 cases; 14 received no apparent benefit; all dead now; 12 of these far advanced when seen; 14 improved temporarily, but later grew worse; 6 of these since died; 6 much improved, taken early; 8 disease arrested, of 19 per cent. Fourteen per cent, great improvement. Substitution of iodine for chlorine seemed more beneficial.

1892. Klebs, tuberculocidin. Experimental, 4 groups isolated: Albumoses, alkaloids, extracted matter, and lucin. Albumose is a curative factor, as claimed by Hunter. Koch's serum does not possess it. Derived from plasma of tubercle bacilli, not a product of inflammation. Preparation from tuberculin of Libbertz' laboratory by precipitating the alkaloids and extracting with matter.

Eighty-five cases treated; completely cured 14 cases, or 18.6%; improved, 45 cases, or 60%; not improved, 14 cases, or 18.6%; died, 2 cases, or 2.6%.

Later, reported 130 cases; 43 treated by himself; 87 by others. Completely or nearly cured, 14 cases, or 10.8%; considerably improved, 59 cases, or 45.4%; somewhat improved, 34 cases, or 26.1%; not improved, 23 cases, or 17.7%. Dose up to 500 mg. daily, then every other day large doses.

1892. E. F. Wells, Chicago. Sulphide of lime in phthisis. Three cases; dose,  $\frac{1}{4}$  gr., 1 gr., three times a day; calc. sulph., 15 gr.; strychnia sulph., 1 gr.; acid arseniosum,  $1\frac{1}{2}$  grs.; ulmus. pulv., q.d. M. Capsules, No. 60, one or two, three times a day. Results: First, reduction of fever; and cessation of night sweats. Second, expectoration diminished in amount, and less purulent.

1893. Von Ruck. Winyah Sanitarium. Class A. Caseous softening or excavation present; complications; chances of patients considered good.

Class B. Chances of patient less favor; able; complications graver; extent and degree of pulmonary invasion greater; greater impairment of nutrition.

Class C. Almost hopeless cases; 309 cases treated. Class A, 53.2 improved. Apparent



clinical recovery in 48. Greatly improved and disease arrested, 3. Class B, 139 cases, with apparent clinical recovery in 73; greatly improved, disease arrested, 43; 23 improved. Class C, 117 cases; apparent clinical recovery in 41; greatly improved, disease arrested, 23; improved, 24; worse or died, 29. Treatment: Dietetic, hygienic, climatic, culture products; 1339 cases, including 309 reported. Koch's original tuberculin, 379 cases reported; 35.5% recovery; 37.5% improved; modified tuberculin used in 348 cases; 38 per cent recoveries, 48% improved.

Watery extract of tubercle bacilli in 612 cases; 54.2% recoveries; 36% improved. Culture products in a total of 1339 cases; 42.6% recoveries, and 40.3% improved. Without culture products, 816 cases, with 12.1% recoveries, and 31% improved.

1893. Von Ruck—Winyah San.

Stage.	THIRTY SIX CASES TREATED WITH TUBERCULIN.					FIFTY-FOUR CASES WITHOUT TUBERCULIN.				
	Per cent....	Worse.	Per cent....	Stationary..	Per cent....	Slightly im- proved...	Per cent....	Improved..	Per cent..	Greatly im- proved....
First stage..	83.3	5	18.7	1	83.3	6	16.6	1	50.0	3
Second stage ..	53.4	8	40.0	6	53.4	15	35.7	5	42.8	6
Third stage....	0	15	8.8	7	0	15	33.3	5	8.8	3
Total.....	36.1	13	38.9	14	36.1	36	33.3	18	22.3	12
First stage ..	33.3	2	50.0	3	33.3	6	16.6	1	50.0	3
Second stage ..	14.1	2	42.8	6	14.1	14	35.7	5	42.8	6
Third stage....	7.7	4	22.3	12	7.7	34	33.3	12	8.8	3
Total.....	7.4	4	22.3	12	7.4	54	33.3	18	22.3	12

Medical News, Philadelphia. Vol. LXIII, pages 317-19.

1893. E. O. Hershey, Denver.

Climate, dietetic, hygienic; 328 cases treated in Colorado:

Cases.	Originating in Colorado.	Treated 2 to 5 years before coming to Colorado....	Treated 1 to 2 years before	Treated 3 months to 1 year before..	No treatment before.....
Total....	5	62	32	8	5
On road to recovery	3	26	36	19	25
Recovery .....		4	22	14	67
Per cent of fatalities	62.5	66.7	35.5	19.3	54.5
328 cases.....	8	92	90	41	97

1894. Hydronaphthol. Carl B. Smith, Binghamton, N. Y.

Thirty-one cases; 9 deaths; 8 incurable, but enjoying fair health; 14 cured completely. Incipient cases, look for cure in 3 weeks. Second stage, cured within five weeks—50%. Third stage, life prolonged, sometimes cures. Time of treatment, 15 months.

Theory: Acts as an antiseptic.

Results: Symptoms abate. Gain in weight, appetite, etc. Dose, 5 grs. to 1 dram.

1894. Treatment of tuberculosis by E. L. Shurley.

1. Climate. (a) warm-moist; (b) warm-dry; (c) hot (moist, dry); (d) cold; (e) altitudinous.

2. Hygienic. (a) Domiciliary surroundings; (b) clothing; (c) food, drink; (d) habits; (e) mental hygiene.

3. Medicinal. (a) hypodermatic; (b) general; (c) local (inhalations, insufflations), (external, blisters, cataplasms).

4. Treatment. Symptomatic. Hemoptysis; diarrhoea; cough; anorexia; sweating; insomnia; pyrexia.

5. Surgical.

1894. Solly.

High altitudes beneficial in (1) incipient tuberculosis; (2) imperfect expansion; (3) chronic pleurisy; (4) hemorrhagic phthisis; (5) more advanced disease, some consolidation, no excavation; (6) cases of cavity; if not large, disease quiescent.

Contraindications to high altitudes: (1) advanced age; (2) septic condition; when disease active, pyrexia constant; (3) double

cavities with or without pyrexia; (4) great irritability of nervous system; (5) disease of kidney, liver or heart; (6) diabetes; (7) great loss of pulmonary tissue; (8) emphysema; (9) tubercular laryngitis.

#### SOLLY'S RESUME.

	No. of Cases.	Cured.	Benefited.
All stages,	4,167	10%	36%
1st stage	714	20%	44%

#### HIGH CLIMATE.

All stages,	709	36½%	74%
1st stage,	350	62%	84½%

1894. W. S. Boardman, Boston.

Injection fluid:

Gold and sodium chloride (U.S.P.)	1.69 gm.
Manganese Sulph	2.44
Potassium iodide	4.62
Dilute alcohol	10 c.c.
Glycerine	
Water, q. s.	

Dissolve gold and potassium iodide separately in glycerine to make each solution weigh 25 gm.; gentle heat, if any; mix when cold.

Each 77 mg. (about 1 drop) 1 3-10 mg. (1-50 gr.) of gold and sodium chloride, and equal amount of manganese iodide.

Injections given in forearm. Subclavicular region, ordinary hypo. Initial dose, 1 gtt., with dilute carbolic acid 1%.

Theory: Gold is entropic.

Manganese—anti-anemic—borne out.

Exact effect on the pulmonary tissue: (1) A matter of conjecture; (2) acts as a tonic; (3) inflammatory reaction about focus; (4) no injury from treatment. Good chance of improvement or cure.

#### RESULTS OF TREATING 40 CASES.

##### Subjective Results.

	Better.	Not Imp.	Worse.
First stage, 32	14	18	0
Second stage, 6	2	3	1
Third stage, 2	1	0	1

Largest dose, 24 grs.

1895. Nuclein. R. W. Wilcox, New York.

Summary: (1) Nuclein is absolutely harmless; (2) assists nature in limiting effects of bacteria invasion; (3) offers best prospects of specific remedies in pulmonary tuberculosis.

1. In 1895-96 Dr. P. J. H. Farrell, then

of San Francisco, now of Chicago, conducted a series of clinical experiments to test the value of Formal-dehyde (formic aldehyde) in the treatment of pulmonary tuberculosis. An elaborate system of generators were constructed and installed in air tight wooden booths. The patient sat in the booth, the air space around the door was sealed up with adhesive plaster, the patient's eyes were carefully covered, the nostrils and lips covered with a thick coating of vaseline, a rubber tube an inch in diameter was held in the patient's mouth, and ran through the wall supplying air. There were a number of holes like those in a flute or piccolo, so that the patient could by pressing the tips of the fingers over the holes, gradually increase or decrease the quantity of Formaldehyde gas taken into the lungs and insuring a thorough mixing of the gas with air. The patients were watched through the glass in the door. The first reports were very enthusiastic, and again the world was promised a possible cure for pulmonary tuberculosis. At the end of a year the experiments were abandoned and Dr. Farrell today attributes the early success of the treatment to the fact, that the cases first selected were only in the first stage, and that they were taught to breathe properly and "recovered in spite of the treatment." Several severe hemorrhages that started while the patients were taking the inhalations brought about the discontinuance of the experiments, and a report of the failure.

1895. Nuclein. V. C. Vaughn, Ann Arbor, Mich.

Experimental conclusions: (1) Nuclein and nucleic acid are powerful germicides. (2) The germicidal constituent in the serum of the blood is a nuclein. (3) Immunity to bacterial invasion secured by frequent injections of nuclein.

Conclusions from cases treated: (1) pulmonary tuberculosis which has progressed to the formation of a cavity, nucleic acid from yeast will not effect a cure. (2) Even when the tuberculosis is of long standing. Great extent of tissue involved. Secondary infection with pyogenic germs has not occurred. This remedy may retard the progress of the disease. (3) In initial cases, no

secondary infection, and area involved is small. Resistance of patient good. The proper employment of this remedy may produce at least a temporary cure. Author does not know when the bacilli may return, considering the short time he has used it. Dose, 1 to 3 drams of 1-6% solution by mouth. Hypodermically, 1% up to a dram.

1895. R. H. Babcock, Chicago. Open air treatment.

Consumptives who cannot change climate should pass their days in open air, no matter what stage of the disease. Under proper precautions it can be done in all weather except when the thermometer is below fifteen above zero. Cold baths, friction to skin; rest as symptoms indicate.

1895. Paul Paquin, St. Louis.

Twenty-two cases treated by immunized horse blood serum; ten minims once daily for three months; not aided by dietetic or mental influences; improvement in all cases. Increase in weight and subsidence of symptoms. More than one-half discharged from hospital or able to work. Immunization of animal similar to that used in diphtheria.

1895. Tuberculin and its modification, anti-phthisin. H. Longstreet Taylor, St. Paul.

Seventy-two cases; tuberculin used in 2 years; 7 for diagnosis; dose 1 mg.; 7 discontinued treatment of their own accord; 19 at present under treatment; 39 to be reported; 18 third stage cases; 7 dead; 2 given long courses; 5 but a trial, treatment abandoned; 5 worse, and 1 given but a trial; 5 improved, and one greatly. Eight second stage cases, one dead, two worse, one improved, and four greatly. Thirteen early cases, one dead, one worse, and 11 greatly improved. Twenty-one cases, with a mortality of 10%, worse 14%, improved 5%, much improved 70%. Dose, 15 to 30 mg. hypodermically.

1895. J. R. Conway, New York. Creosote.

Large dose up to 20 m. after meals; always after eating; never on empty stomach. Given in capsules, with cod liver oil; proportion of one to two. Begin with 2 m. doses, increase 2 m. every fourth day to 12 m. Do not increase, but watch effect.

1895. Carasso's Method of Treatment in Detail. De Lancy, Rochester, Buffalo.

Piece of linen cloth, 10 c.c. by 2 c.c., 4 or 5 thicknesses. By means of a tape this is held in contact with the nostrils; worn day and night, except at mealtimes. Moistened four or five times daily with essence of peppermint. Nostrils greased with vaseline at first to prevent irritation. Patient takes series of six to eight breaths, holding them as long as possible. Repeated every fifteen or twenty minutes during the day.

#### CARASSO'S REPORT.

##### Internally:

Pure Beechwood creosote .....	8
Alcohol .....	550
Glycerin .....	250
Chloroform .....	20
Essence peppermint .....	8

Sig.: Dr. 1 every three hours, dil.

1896. 182 cases treated at Winyah Lake, Asheville, N. C. Anti-phthisis or Tuberculo-cidin. General climate and hygienic surroundings.

Stages.	Cases treated.	Appar'tly Recovered.		Greatly Improved; Disease Arrested.	
		No.	Per cent.	No.	Per cent.
Early .....	32	26	81.	5	16.
Middle .....	74	26	35.1	25	34.
Last .....	76	7	9.	26	34.2
Total .....	182	59	32.4	56	30.8

Stages.	Improved.		Not Improved.		Worse or Died.	
	No.	Per cent.	No.	Per cent.	No.	Per cent.
Early .....	10	3.	.....	.....	.....	.....
Middle .....	17	23.	3	4.	3	4.
Last .....	11	14.4	3	4.	29	38.4
Total .....	29	16.	6	3.3	32	17.5

—*Therapeutic Gazette*. Dietetic. Vol. XII, page 308.

Karl Von Ruck.

Nutrition; overfeeding. 44 cases treated, with 6 deaths and 38 cures.



Author's report: 34 cases; 3 months' treatment, all doing badly; had to change treatment. (*Journal of the Amer. Med. Assoc.*, Vol. 24, p. 840.)

1896. Hubbard Winslow Mitchell, New York.

Mitchell's fluid:

Sodic hypochlorite	.....	1	gms.
Potass	.....	1	"
Magnesian chlorid	.....	1.5	"
Calcic chlorid	.....	2	"
Hydric chlorid	.....	2	"
Potass, sulph	.....	1.5	"
Mag	.....	5	"
Aqua	.....	1,000	"

Given two or three drs., 3 or 4 times daily; always on empty stomach.

Report: 130 cases treated. 40 practically well; 30 absolutely hopeless; lung destruction too extensive; 60 cases, recovery probable; 8 other cases; all recovered in 4 to 7 months.

Pathology: Only antiseptic powers.

1896. O. G. Place, Boulder, Colo.

Report of 10 cases cured, Sanitarium, Boulder, Colo. (1) Climatic treatment; (2) no stuffing, but good food; (3) rest and wet pack to chest when temperature; (4) hydrotherapy, no alcohol.

1896. Eleven years' observation with creosote, by J. E. Cobb, Cincinnati.

No well-marked cases of tuberculosis recovered with creosote or any other drug without the very best and most favorable climate conditions coexisting.

Results: Large doses are dangerous, if long continued, for the following reasons: (1) Patient becomes more anemic after a time, and rarely recovers from it. (2) Invasion of healthy lung tissue from detached necrotic tissue; pneumonia resulting.

1896. Maragliano serum. Francesco Carlucci. Five cases improved. Preparation: Formula unknown. Uses a solution of toxic products of a virulent culture of human tuberculosis. Substance destroyed by heat-proteid, and resistant to heat-toxin. Results: (1) Serum is innocuous. (2) Causes drying up of broncho-pneumonic foci. (3) Improves appetite, increases weight, with gen-

eral return of physical force. (4) Effect of serum gradual.

1896. Aseptolin. Cyrus Edson, New York.

• R

Water	.....	97%
Phenol	.....	2.74%
Pilocarpine phenol hydroxide	.....	0.0188%

Pilocarpine added to produce leucocytosis and to stimulate glandular activity. Site of injection: Abdomen best for large doses, 250 m. Buttocks, etc., dose 50 m. daily; good. Iodoform, and carbolic acid spray, inhalant. 216 cases treated; 212 improved, 4 not improved, 23 of improved discharged as cured; 66 of improved will be discharged as cured; 91, no different prognosis; improvement slight; 32 cases improved only temporarily; 1 died.

1897. Iodoform injection or urophen. L. F. Flick, Philadelphia.

10 cases reported in 1891; 1 apparently cured; 3 approaching cure; 4, disease arrested; 2 relapses; doing badly. One year later 4 had died, 3 were apparently well, and 2 disappeared from observation. In 1897, 8 dead, 1 well, 1 disappeared.

Pathology and treatment: Iodine gives the results. Even and continued influence maintained in blood by the gradual absorption of the drugs, giving off the iodine in tissues.

102 cases treated; 11 probably dead, 41 dead, 15 cured, disease arrested in 16, but still some evidence of it present. 15 some-improvement; no chance of permanent cure, and 2 died of intercurrent disease.

1897. J. O. Hirschfelder, San Francisco.

"We have a right to assume that the law of antitoxins is one of general application, and that that observation which is true of one bacterial disease is true of all."

Theory, that oxidation of toxin leads to production of antitoxin. Experimentally, oxidation is produced by the action of hydrogen peroxide at 100°C.

Method. Filter a sterilized, fully grown culture of bacillus tuberculosis upon alkaline, glycerine bouillon. Add one-tenth volume of ten volume solution of H<sub>2</sub> O<sub>2</sub> to such tuberculin. Maintain the mixture at 100°C. for

12 hours, then add same quantity  $H^2 O^2$ . Repeat process until amount added shall equal that of tuberculin used. Final mixture heated for 12 hours or more. Tuberculin subjected to action of  $H^2 O^2$  at  $100^\circ C.$  for 120 hours.  $NaOH$  added, make it alkaline; clarify and do away with excess of  $H^2 O^2$ . Dilutions made of known strength.

1897. Oxytuberculin. Summary of 65 cases treated; 11 cured, 29 much improved, 2 slightly improved, 8 unchanged, 7 worse, and 5 died.

1897. Churchill's method. T. Blank, St. Louis. Pathology of Treatment. Supplies oxidizable phosphorus in the form of chemically pure hypophosphites. Medicine: Hypophosphites of soda, lime and quinia. Never combines them, but gives one at a time. Conditions favoring foothold of bacilli of tuberculosis. Deficiency of the phosphide (oxidizable phosphorus element). If absent, the oxygen of air inhaled is not utilized to the fullest extent. Instead of a normal bioplasmic material being produced, a broken-down tissue is substituted. Report of 45 cases, not classified. General results, cured or improved. Condition in from three months to one year.

1897. E. F. Ingals, Chicago. Antiseptic treatment. Aside from tonic and nutritive agents, antiseptics are the only agents having any power in checking the progress of the disease.

1898. Antiphthisin, Fisch.

Method: Immunizing a horse with Koch's tuberculin produces a complex serum.

1. Contains not only the toxin secreted by the bacteria, but also those contained in the tissues of the bacteria.

2. Serum would produce antitoxic bactericidal properties. Dose, minimum  $\frac{1}{4}$  c.c., increased till reaction is produced.

Results: (1) Improves general conditions. (2) Increases production of young cells in the blood. (3) Diminishes cell disintegration. Increases per cent of eosinophile cells.

Deductions: (1) Early incipieny, the disease can be cured and convalescence rapidly established. (2) In predisposed cases the serum will diminish this acceptability (?). (3) Advanced cases without mixed infec-

tion show encouraging results. (4) In cases in last stage, with mixed infections, disease receives temporary check. No cure except in rare cases.

1897. Treatment by topical applications. Joshua Lindley Barton, New York.

Aspirating syringe with endolaryngeal tube, mirror, etc.

Advantages of this local medication:

(1) Remedy applied direct to irritated mucous membrane. (2) Relieves distressing symptoms. (3) Antiseptic action of medicine marked in many cases. (4) General as well as local effect by absorption.

Twelve cases treated in one year; 6 early cases and 6 late. Two apparently recovered, 3 nearly well and others greatly improved.

1897. H. A. Hare, Philadelphia.

Injection subcutaneously, oil of cloves, M X, with French olive oil, 50 minims once daily; oil of cloves, 5 minims, t. i. d., pc., in capsules.

1898. J. O. Hirschfelder.

Summary of results of treatment of 70 cases:

Stage.	No. treated.	Cured .....	Much improved ..	Slightly improved ..	Unchanged	Worse .....	Died .....
Fourth .....	23	1	11	3	2	1	5
Third .....	29	3	19	3	4	.....	.....
Second .....	14	8	6	.....	.....	.....	.....
First.....	4	4	.....	.....	.....	.....	.....
Total.....	70	16	36	6	6	1	5

Well: Absence of tubercle bacilli from sputum. General disappearance of symptoms. Patient feeling well.

Conclusions: (1) System should be as nearly saturated with antiseptics as possible. (2) Given first in small doses, gradually increased to maximum. Care should be exercised not to disturb digestion. (3) Oil of cloves, five drops in capsules. Three to five times daily. Medicine always followed by a glass of milk. Increase one drop each day up to 25 to 30 at a time. Carbonate of creosote better than creosote. (4) Five to six drops, t. i. d., pc., with benefit. (5) These two the best. Eight cases reported had ad-

vantage of climate, with general improvement in all cases.

\* 1898. Five years' successful treatment. C. W. Ingraham, Binghampton, New York.

(1) Rest when fever is over 100° F.; otherwise moderate exercise. (2) Outdoor life; thirty minutes' rest before meals. (3) Chest expansion practice. (4) Liberal diet and petroleum emulsion and cod liver oil. (5) Hypodermic use of alteratives and altero-reconstructives.

# R

Phosphorus .....	gr. 1-100
Iodin .....	gr. ½
Bromin .....	gr. 1-14
Thymol .....	gr. 2/3
Menthol .....	gr. 2/3

Dissolve in olive oil.

In 1895 reported treatment of 50 cases of tuberculosis. Nearly 90% cured in 21 cases treated in first stage; nearly 50% cured in 14 cases treated in second stage. Fifteen cases in third stage, no cures.

Several showed permanent improvement, and are now alive.

1898. H. P. Loomis says, in *Therapeutic Gazette* of October 15th, that he has seen fever leave phthisical patients and their weight increased on hypodermics of water given daily.

1898. Anti-phthisic serum. Dr. F. E. Waxham, Denver. Ten cases treated; over one thousand injections, with no abscess formation; none cured; 1 died; 2 improved; 7 worse.

Dr. Wm. N. Beggs, New York.

Reasons why serums are not successful in tuberculosis, but are in certain infectious disorders.

1. Those diseases are essentially acute diseases; tuberculosis is not.

2. Those diseases are toxemic diseases. Tuberculosis is a neoplastic disease as well as toxemic.

3. In those diseases the retrogressive changes are such as may be recovered from without loss of tissue. In tuberculosis there is always absolute destruction of tissue.

4. In those diseases bacteria are not scattered through the tissues, but have a definite

localization. The source of toxin formation is single, not multiple. In tuberculosis the opposite is the case.

5. In those diseases the source of the toxin is as readily accessible to therapeutic agents. In tuberculosis the bacilli are within a neoplastic tissue, a non-vascular tissue. This means that in them the movement of tissue fluids is exceedingly sluggish, in the necrotic centers practically absent, consequently the therapeutic agents fail to reach the source of the trouble.

6. In those diseases the bacilli are usually destroyed or discharged from the organism quickly, therefore the administration of the antidote to the toxin is continued for only a very short time. In tuberculosis the tubercle bacilli are continuously for great periods of time, and the administration of the antitoxin would necessarily be as protracted.

7. In most of those diseases (diphtheria an exception) the survival of the attack confers an immunity to the individual. No such thing is known in tuberculosis.

8. Those diseases are all self-limited diseases. If the intoxication is not too great and the patient survives for a really short time, he recovers. No characteristic self-limit to tuberculosis.

1898. Antitoxin treatment of tuberculosis. Chas. Denison, Denver.

Tuberculin Preparation on Market:

1. Crude or original tuberculin of Koch. Glycerine extract of dead bacilli filtered through porcelain.

2. Klebs' modification, tuberculocidin. Crude tuberculin deprived of much of its toxins and reactionary power.

3. Antiphthisin practically the same, produced by Klebs.

4. Tuberculinum purification practically same preparation by Karl von Ruck.

5. Purified tuberculin, by Dr. Whitman, of Los Angeles, from the culture fluid in which bacilli have been grown, not standard in strength.

6. Oxytuberculin, by Dr. Hirschfelder of San Francisco. 5% tuberculin under great and protracted heat, saturated with H<sup>2</sup> O<sup>2</sup>.

7. Koch's new tuberculin, Tr.

8. Karl von Ruck's watery-extract tuber-



cle bacilli dead. Powerful in immunizing strength.

Purified tuberculin differs from anti-phthisin in that it is made and concentrated with the tubercle bacilli in the fluid, and is filtered through porcelain as well as paper.

From tuberculocidin—prepared and concentrated at a low temperature, 50° C. instead at 100° C., boiling temperature, and filtered through porcelain.

(*Jour. Am. Med. Assoc.*, Vol. XXX, p. 290.)

1899. Autopneumatic differentiation, W. H. Weaver, Chicago.

Specific action of air. First, forced inspiration; second, nebulization, and third, massage of chest.

Summary of cases: 56 cases treated; 19 first stage cases cured. 28, second stage cases. 16 cured, 7 improved, 3 died, 2 unreported.

Nine third stage cases; no cures, 6 temporarily improved. Thirty-seven cases, nearly 80 per cent cured.

1899. Nitrogen method. J. B. Murphy, and A. F. Lemke, Chicago.

"For the operation the patients are put on the table, and the skin in the neighborhood of the fifth and sixth interspaces, from the sternum to the post-axillary line, is carefully prepared, and the needle, which is an ordinary spear-pointed aspirating needle, is inserted in the fifth or sixth interspace in about the anterior axillary line, or slightly farther back, particularly when the left side is injected. The quantity of gas that can be injected depends on the presence or absence of adhesions, the amount of infiltration in the lung tissue, the condition of the heart, and the size of the pleural cavity. In an individual of average size, if no adhesions are present, 80 cubic inches of gas constitutes the minimum quantity that may be expected to collapse the lung. The maximum quantity is 150 cubic inches.

The wound is sealed with collodion, and, in order to avoid the escape of the gas into the subcutaneous cellular tissue, a tightly wound roller bandage is laid over the wound in the intercostal space, and held in position with a long strip of adhesive plaster."

"Of the possible accidents that may occur in connection with the operation may be mentioned: (1) Gas embolism; (2) wounding of the intercostal vessels; (3) pulmonary hemorrhage from puncture of the lung tissue; (4) wounding of the pericardium in the event of its being distended. The most serious accident occurring in this group of cases is one of hemiplegia. The most important theories in regard to the production of this condition are (1) the reflex theory; (2) the gas embolism theory."

"In another case a profuse hemorrhage occurred immediately after the introduction of the needle, and before the tube that conducts the gas had been attached. This hemorrhage was undoubtedly due to a rupture of some vessel, possibly in the wall of the large cavity that existed in the left upper lobe. It was a case of pulmonary apoplexy. The needle was inserted about two cm."

Fifty-two cases reported with following general results: (1) Diminution in cough and expectoration after two days; (2) in 48 to 72 hours diminution in fever; (3) almost uniform gain in weight. Some gained thirty to forty pounds in ten weeks; (4) cessation of hemorrhage.

1899. Karl von Ruck. Watery solution of tubercle bacillus.

Preparation:

1. Tubercle bacillus filtered out of rapidly growing highly virulent culture.
  2. Dried in vacuum dessiccator after washing with distilled water to remove remains of culture fluid.
  3. Powdered in agate mortar. Extracted with sulphuric ether; removes fat.
  4. Dried and powered as before.
  5. Further extraction in sterile distilled water over a warm bath at temperature of 120° F.
  6. Proteids become dissolved in distilled water.
  7. Fluid decanted filtered through porcelain.
  8. Amount of proteids determined; preparation standardized to a certain percentage.
- Three strengths: No. 1, 1-100%; No. 2, 1-10%; No. 3, 1%.
- Initial dose 1-10 c.c.. No. 1. Increase dose.



rarely applied in the study and the results obtained by any form of treatment. The object of this research has been to apply this crucial test to the permanency of the beneficial effects which are undoubtedly obtained by the sanatorium treatment of pulmonary tuberculosis. The use of different classifications, and in some instances the different interpretation of the same classification render any comparison a difficult task. Take, for example, the terms "apparently cured" and "cured." One observer applies them to patients who have gone a few months without symptoms, and whose physical signs, if all abnormal, are indicative of a healed lesion. Another thinks the time should be six months, a third one year, and possibly interprets the physical signs differently. It is to be hoped before long we shall have in America one classification adopted by the various sanatoria. The classification adopted by Dr. Trudeau is as follows:

"Incipient stage; slight local, with little or no constitutional involvement.

"Advanced stage. The local disease process extensive or in an advanced stage, or slight local pulmonic invasion with rather marked constitutional involvement or with complications.

"Far advanced stage. Marked signs of pulmonary disintegration, with marked constitutional symptoms:

"Improved condition. Physical signs showing process less active, or general health improved, with symptoms relieved or abated.

"Arrested. No activity in process in lungs, with absence of fever and other constitutional symptoms.

"Apparently cured. Abnormal physical signs absent, or if present, only slight and indicative of healed lesion. Absence for some months of pyrexia and of sputum or of sputum containing tubercle bacilli.

"Perfectly cured. Abnormal physical signs absent, or, if present, only slight and indicative of healed lesions. Absence for two or more years of pyrexia and of sputum, or of sputum containing tubercle bacilli."

Summary of results in 1,500 cases.

If we deduct 434 untraced cases, we have left but 1,066 cases, which have been traced.

Of these, 31% were well; 6.5% arrested; 4% have relapsed; 5.2% are chronic; 5.3% are dead. Deducting from the number of incipient cases those that have been untraced, we find that there are left 258 cases. Of these, 66% are well, and 21% are dead.

Of the 563 advanced cases which have been traced, 28.6% are well, and 52% are dead; while of the 235 far advanced cases which have been traced, 2.5% are well, and 90% are dead. It must be remembered, however, that these figures are only approximately correct, as no doubt more of the untraced cases are dead than these figures would indicate.

A perusal of this comprehensive resume emphasizes the fact that several methods of treatment have produced very favorable results. The one line of medication which stands out foremost are the results obtained by diet, hygiene and climatic environment. In this group there are 1218 cases cured and 1632 markedly improved. For a while the Bergeon method of sulphuretted hydrogen gaseous enemata seemed to promise good results but today the treatment is only a memory. In connection with this treatment I would like to refer to some work I did in 1890. I demonstrated conclusively that properly prepared nebulized antiseptic oils reached the pulmonary alveoli of the animal and the human lung. Previous to that time the text books stated that such vapors did not reach beyond the larger bronchial tubes. A demonstration of the fact that they did reach the pulmonary alveoli lead me to conclude that their use would be of great value in the treatment of pulmonary tuberculosis.

I wish now to confess to the error of my conclusions respecting the value of this treatment. I now know that whilst these vapors do reach the alveoli they do but little if any good when they get there. I now say the value of such medication is confined largely to diminishing inflammatory irritability merely of the mucous membrane of the respiratory tract. This form of treatment cannot in any sense be considered curative, but only as a palliative. Another treatment that was justly received with much favor at the time, was that known as the Shurley-Gibbes treatment. This form of medication so in-



interested me that I went to Detroit, Michigan as the guest of Doctor Shurley and was enabled to come in close contact with this form of medication. Today I consider this treatment an excellent one but it does not appear to be very generally used.

Probably one of the most daring suggestions for the cure of pulmonary tuberculosis was that suggested by Doctor J. B. Murphy and known as the Nitrogen Gas treatment. It has always seemed to me that the life of a lung was due to its activity not to its quiescence. Enough time has now elapsed so that we can fairly estimate good results if any from this form of treatment. As far as I am able to judge the treatment today is seldom if ever used.

#### GENERAL CONCLUSIONS.

With all this vast array of scientific struggle, what progress have we made in the treatment of pulmonary tuberculosis? We have observed that there is scarcely a drug in the pharmacopeia, hardly a method either physical, electrical, hydropathic or mechanical, which has not been advocated. We must admit that the discovery of the tubercle bacillus, with all our comprehensive knowledge of its histological and pathological properties, has not insured any general immunity from its ravages. The tendency of pulmonary tuberculosis is always toward spontaneous recovery. It seems reasonable to conclude from the vast number of reports presented with so much scientific enthusiasm and with such a great array of collateral proof as to their efficacy, that there does not exist a definite caused relation between the remedy used and the cure effected. It appears to me that the cures reported are the coincidence of the treatment used, rather than definitely due to its use.

We do not know what specific systemic process produces connective tissue formation. Until we know what this basic systemic process is, and upon which rests the control or cure of tuberculosis, our treatment must be considered tentative.

The amazing success of diphtheritic anti-toxin leads us to hope that the discoveries of the future may lie in an anti-tubercular tox-

in. From such an anti-bacillary toxin, we may hope for success in controlling bacillary invasion. Such control, however, must always come from high vital resistance first; the action of anti-toxin second. It seems evident that any effort to cure pulmonary tuberculosis by drug domination is and ever will be futile. Twenty-five years of scientific struggle in the United States has demonstrated the absolute failure to effect a cure alone by drugs. It is evident that no medicine in a bottle ever cured tuberculosis. Great advances, however, have been made in the direction of collateral therapeutics. By these I mean baths, electricity, massage, magnetism, osteopathy, hydrotherapy and individually indicated lung gymnastics. These have their proper place and use, purely as an aid to nature. They must, however, always play a secondary role and be subservient to the great natural agencies of pure air, pure water, pure food and judicious exercise. Right living saves from tuberculosis. The closer we live to nature, the freer from tuberculosis. No considerations of commercial expediency can ever justify the employment of labor in unhygienic surroundings. It stultifies scientific struggle to destroy bodies from eighteen to forty years of life, which should live triumphant for sixty to seventy years, *merely* to make money.

The scientific resources then that have stood the crucial test of time and experience, and which are the beacon lights to guide us onward, are in hygiene, diet and climatic environment. Preventive medicine has made immense strides until today its influence is widespread; an agency of increasing potency and enlarging scope. Foremost in this work of publicity are the circulars issued by the Illinois State Board of Health. The latest third revised edition is a model of its kind, and its influence for good in thousands of homes is incalculable.

With the knowledge that the manifold agencies of nature cure, not drugs, has come an interesting number of efforts to practically apply these abundant and all pervading resources.

Foremost in this scientific struggle against tuberculosis is the active part taken by the

physicians of the great State of Illinois. The locality chosen for this convincing proof is the inland City of Ottawa. Here a wooded hill-top with sandy soil and perfect drainage, overlooking a running stream, and bathed in the subtle chemistry of sunlit slopes and ozone laden air, can nature surround the tubercular body with all the agencies that tend to promote tubercular control. Under such natural conditions will it be possible for tuberculosis to vanish. The tubercular must have an abundance of oxygen; they may live weeks without food but only five minutes without oxygen. If we are to cure tuberculosis we must breathe pure air twenty-four hours out of the twenty-four. Oxygen and oxygen alone reduces fever, aids digestion, gives refreshing sleep, and heals the lungs. But not alone in this spot but in any spot where nature can encompass our bodies. Eighty-five per cent of all cases of tuberculosis can be as easily cured in Illinois as elsewhere. Climate has been commercialized. From the far off western slopes has come the dogma, there and only there can you be cured. Leave home and friends and journey far; for only in certain sacred spots can you be healed. The Medical Science of the twentieth century places the stamp of falsehood on such a monstrous claim. The blessings of nature are universal. They are all about us, all we have to do is to trust ourselves to them. Not by living in sunless houses with dampened basements, moisture laden walls, darkened bedrooms, heavily carpeted floors and draperies of death; but where pure air and sunshine can circulate in every crevice, and the death dealing demons of decay be banished by the universal chemistry of nature.

We have learned what is best in general management, through individualizing each case. We must strive to increase the physiologic power of resistance. The unwelcome invading myriads of bacilli must be met and overcome by the resistant systemic host. It is our own vital resisting power that cures. Tubercle bacilli have been with us from time immemorial, and doubtless will continue to be, but in decreasing numbers. When we learn to live right, will we be free from the danger of tubercular infection. The errors

of the past are a guide to the truth of the future. Exclusion of error admits the pure light of truth to shine. What a pathway of promise awaits the twentieth century scientist. The shackles of superstitious reverence for scientific authority are forever broken, and guided by the light of reason, will we mount to greater heights of research and discovery.

Let this scientific spirit burn on and on with quenchless flame. The struggles of the past are but an incentive to the progress of the future. Unfading memory recalls the many heroic ones, whose lives have been laid down upon the altar of this scientific struggle. But they have not lived in vain. Their works live after them. What greater work can await us. Let us each and all do our part, that in the end, tuberculosis may forever be banished from our midst.

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#### Discussion on the papers of Drs. Thomas, Mix and Pettit.

Dr. Norman Bridge, Pasadena, Cal.—Mr. President and Members of the Society: I am very glad to have heard these papers, especially that of Dr. Mix, (this paper has not been handed in) although he takes a very extreme view of the subject. Certainly, that paper ought to be a great comfort to a tuberculous family, to people who have heretofore regarded themselves and their family as being predisposed to tuberculosis. I can imagine nothing more comforting than Dr. Mix' paper, and, I believe, we could do no greater service than to send a copy of his paper to these families.

I think he is in error as to the number of people who have tuberculosis. He has doubtless gathered his statistics carefully from the data at hand, but the cases of tuberculosis have not all been counted. It is certainly not the observation of most practitioners who have seen great numbers of patients with tuberculosis and who have also seen many post mortems that a large number of people have tuberculosis without knowing of it, or for them to recover from it without having known that they had it. It is discovered by physical examination or by collateral evidence, or it is discovered post mortem.

That is a serious objection to his reasoning as to the number of people who have tuberculosis. But his reasoning about the absurdity of the great emphasis that is placed on a special predisposition is important, and that I commend, as, I think, we all must.

Dr. Pettit's paper (this paper will appear next month) is so magnificent and so perfect that I cannot criticise it, except to criticise it favorably, except, perhaps, with reference to one point and that was a casual opinion he expressed, a fear that the modern treatment of tuberculosis is likely to go out of fashion because of certain reasons. I do not agree with him in this, but I do agree as to the advantages of managing patients in sanatoria and the difficulties of managing them out of sanatoria; the difficulty of inducing them to do the right thing; the difficulty of controlling their whims.

What he said about the inexpensiveness of the necessary domicile is worthy of notice, because if brought to the attention of the public we could have more sanatoria. I believe that the modern treatment will gain in favor and become more popular. It is spreading rapidly



among the people as well as among the profession, and I believe that the effect of that on the people as a whole is to induce greater numbers of them to live more out of doors; to have better ventilation in their houses, and, especially, in their sleeping rooms. I believe in twenty-five years this will lead to an increase in the average power of the people to resist infection, and particularly tuberculous infection. And I cannot imagine any more favorable result than that.

As to Dr. Thomas' paper, that was a very useful paper and a very sane paper. And I was very glad to see a man have the courage to express a change in views as he did tonight. There is no doubt that he is entirely correct that the treatment by good hygiene, by outdoor life, by a better nutrition, as well as, perhaps, by climatic influences, is the best treatment and that everything else is subsidiary and secondary. There is no question as to the truth of that doctrine.

I would like to say a word with reference to two or three of the treatments he mentioned. First of all, I wish to criticise his rather implied doctrine that it is useful to exercise the lung in pulmonary tuberculosis. I do not believe that that is true, although I used to believe it. That it is important for these patients to take deep breaths every few minutes all through the day, and that devices for expanding the lung are useful. I can see no reason why a tubercular lung should be exercised when a tubercular joint is kept at rest. The thing we ought to do with a tubercular lung is to keep it at rest, if we can. We can resort to some of the measures he referred to without lessening the effect of the good hygiene that is so important. We can use the so-called anti-tubercular sera, if we could manage to employ them without doing physical harm to the patient. We ought to keep our minds open for any improvement in these sera; be ready to use them in carefully selected incipient cases, and use them with caution. In the case of some patients they nearly always do harm, although theoretically there is no reason why they ought not to do good, and I hope the time will come when they will be of some benefit.

Creosote still is fashionable in the hands of many practitioners. There is, I believe, no scientific evidence that is worth anything that creosote is especially inimical to the tuberculous infection. It does, in some people, improve the digestive apparatus by lessening decomposition in the intestine, but it has done more harm than good by the large doses that have been given.

#### Discussion.

Dr. Thomas closing the discussion of his part. I thank Dr. Bridge for his kind commendation of my paper. I disagree with him when he states that he considers lung gymnastics contra-indicated in tuberculosis. I believe in many cases they are individually indicated. I fail to recognize the pathological relation that exists between tuberculosis of the synovial membrane in a knee joint and the manifestation

of tuberculosis in the pulmonary alveoli. I can readily appreciate how curative absolute rest would be in the case of tuberculosis of the knee joint. I fail, however, to appreciate the value that such absolute rest would be when applied to pulmonary tuberculosis. If this relationship could be made clear to me I would be glad to agree with Dr. Bridge in his belief. For the present, however, I must still believe in the benefit of individually indicated lung gymnastics in the majority of cases.

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#### EMPHYEMA.\*

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BY J. HERBERT FRANKLIN, M. D., SPRING VALLEY.

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I would characterize as empyemic every purulent pleural collection, whether sacculated or diffuse, large or small, of whatever kind or character, embracing in the list the so-called pleural abscess regarding which so much has been written by various authors.

The culture medium of every empyemic abscess being the serous effusion of a previous pleuritic inflammation, it would be well to consider the anatomical character of the pleura and some of the pathological conditions existing in so called wet pleurisy.

The pleura is a serous membrane whose parietal layer invests the inner surface of the ribs from the first to the eleventh, from the sternum to the spine and is then reflected over the surface of the lungs; a visceral layer, which, when joined to the parietal layer forms the pleural cavity. It extends from the superior surface of the diaphragm, which it covers, to one or one and one-half inches above the first rib. Thin, delicate, extremely vascular and largely supplied with lymphatics as it is normally, when pathologically changed in disease, it assumes a different character.

When I said that a pleurisy always precedes an empyema, I meant that in all cases, whether it be the result of injury, a sequela of typhoid fever, measles, pyaemia, or other septic trouble, or whether the result of a pure inflammatory condition, there is always present an inflammation, slight or otherwise, through whose agency a serous effusion is produced, this effusion being a culture medium for the various bacteria producing em-

\*Read at the 54th Annual Meeting, May 17, 1904.

pyema. And right here let me say that, in my opinion a very large percentage of cases we all see of empyema is the result of an error in diagnosis and inability on the part of the practitioner to diagnose the true condition previously existing. A case in point: About three years ago I was called to see a child, male, age seven years, who was complaining of a sharp pain in the left side; temperature a hundred and two, preceded by a slight chill; breathing short, hurried and bronchovesicular apparently upon auscultation. After a hurried examination I made a diagnosis of pneumonia. There was no rusty sputum following, yet the case was treated as one of pneumonia. Within a week I found I had a case of pleural effusion, which notwithstanding the then violent treatment given, became infected and resulted in empyema. Three cases of this character have come before my immediate notice within the last several months, where, had a correct diagnosis been made by myself and the other physicians at the start, perhaps had more care been exercised, stringent diaphoresis, diuresis and counter irritant methods been employed, the chances are strongly in favor of such rapid absorption of the pleuritic effusion as would have prevented any subsequent infection which took place.

The differential diagnosis between pneumonia and pleurisy is so enlarged upon in all standard text books as to make it unnecessary to take your time in this paper. I would urge, however, in this connection that all of us be extremely careful when called to a case where there is any possibility of an existing pleurisy.

While empyema is usually divided into primary and secondary, the term means an infected effusion. When primary we consider it as an abscess pure and simple of the pleura, not metastatic from gangrene, abscess, pyaemia, otitis media, typhoid fever, or other septic trouble, as is the case in secondary empyema. When infection has occurred the hitherto delicate membrane constituting the pleura becomes greatly thickened, a fibrinous deposit is thrown down and a pyogenic membrane formed. This thickening, depending

as it does upon the virulence of the infection and the length of time such infection is allowed to continue without interference, may be from a slight increase above the normal to a half inch or more. As the process continues, gangrene of the membrane occurs, shreds of dead tissue add additional media for microbic culture and a granulating surface is left beneath, these granulations oozing pus in enormous quantities.

When spontaneous cure results, either by absorption, as in a very small percentage of cases, or by rupture into some adjacent organ, the process is one of continued granulation with adhesion, in the end obliterating the pleural cavity. The pleural cavity, extending as it does to the upper surface of the diaphragm, it is possible for a contiguous peritonitis to be lighted, adhesion to occur between the inferior surface of the diaphragm and the transverse colon or the stomach, rupture to occur and the septic pleural contents be discharged per rectum. It is also possible, and occasionally occurs, for the thickened pleural membrane to give way at a gangrenous spot and the purulent effusion to be thrown into the bronchials and expectorated. In the vast majority of cases, however, fever of the hectic type occurs, the patient becomes emaciated, the body covered with a cold, clammy perspiration, sudamina to appear, the chest on the affected side to be almost immovable, slight pains to continue, intercostal fullness to increase, and an oedematous condition to appear over the ribs. The previous existing flatness upon percussion becomes increased; a short, sharp cough now becomes more marked, sometimes fits of coughing lasting five or ten minutes occurring; the urine becomes scanty and high colored; bowels sometimes constipated, occasionally diarrhoeic; the tongue red and glazed; the face of the patient anxious; in short, we have a picture of extreme sepsis.

Blood counts in this condition show a leucocytosis of from ten to fifty thousand or even more, while in simple serous pleural effusions the blood count is less than ten thousand, a point in differential diagnosis. The degree of the septic symptoms depends somewhat upon the character of the infec-

tion. In children probably fifty-three per cent, at least from fifty to fifty-five per cent of empyemic abscesses depends upon the pneumococcus, while in adult life probably the same per cent of cases results from streptococcus invasion. The staphylococcus, Friedlanders bacillus, diphtheria germ, the gonococcus and the bacillus of tuberculosis, each claims its proportion of victims in this disease, but, with the exception of the last named, not to any considerable extent. And whether it be true that the bacillus of tuberculosis originates empyema in many cases, or whether it is grafted upon an already enfeebled membrane, is a matter of speculation, many good men being upon either side.

The prognosis in all cases of empyema depends entirely upon the treatment used; if the expectant method, bad; if scientific surgical treatment be given, good; the majority of cases recovering with only a slightly crippled condition of the affected side. This rule, however, is more or less affected by age, aged people giving a smaller percentage of perfect cures even surgically than those of youth.

As would be inferred from the above, the treatment of empyema is strictly surgical. After infection occurs, the chances are so much against absorption that radical measures are called for. Whenever by auscultation and percussion an effusion is found within the pleural cavity, the introduction of the aspirating needle will determine whether or not this is a pleural serous effusion, or pus. If serous in character, thoracentesis is to be immediately performed, but if upon the introduction of the needle the accumulation is found to be purulent, a more radical operation is necessary. There must be no half-way measure in empyema. Remembering that in all cases there is liable to be adhesion in the lower part of the pleural cavity between the visceral and parietal layers, the site of operation should be chosen at a point where the purulent contents may be evacuated with the least trouble. In as much as the pleura extends usually to the eleventh rib, and adhesions form in the majority of cases as high as the tenth or ninth, the site of selection would probably be the eighth rib.

The patient having been anaesthetized and the part carefully prepared, the incision is made directly over the rib in the mid-axillary line. Divide the periosteum, separate it from the bone and divide the bone with a Gigli saw or a bone cutting forcep, removing the amount necessary, whether that be a half inch or a great deal more. The anaesthetic is now entirely removed and the pleura opened, for the reason that as soon as the pleural cavity is entered, the patient will make, or is liable to make a violent inspiratory effort, and death might ensue from the anaesthetic. With the finger introduced into this space the adhesions are broken down and the pus allowed to flow. In a large percentage of cases we not only find adhesions between the diaphragmatic surface and the adjacent pleura, but also a cheesy deposit of sediment thrown down from the pus within the cavity, which it is necessary to break up with the finger in order to allow its free exit. A copious flushing with saline solution, a mild permanganate, or even bichloride is necessary to force out the coagulated matter which has collected. We usually find the lung bound in the upper portion of the thorax by firm adhesions. The finger should be swept carefully through these, breaking them up in the same manner as you break the adhesions in appendicitis, or other abdominal operations. As soon as the adhesions are proaching the external wound. Should we find upon breaking up the adhesions that the expansion of that portion of the lung in-broken, we find the lung immediately beginning to expand, its lower portion involved is not complete, the patient should be instructed to hold the nostrils and make a forced effort at expiration. The air in this manner is forced from the sound lung to the one upon the crippled side and expansion becomes a necessity. Should the pain caused by this procedure be extreme, the patient should be instructed to judge by his or her own sensation. Every effort should be made to favor obliteration of the cavity during post-operative treatment. The intention is to bring about the best possible degree of re-expansion of the compressed lung. A method advised by Ralston James is very effective,



that is, forcing water daily by air pressure from one bottle to another, each bottle holding about a gallon, these bottles being connected by tubes.

Regarding irrigation following the primary operation, we should be governed by the temperature range. Should at any time the temperature again go beyond the normal, it means that a purulent collection is being absorbed, and irrigation should be resorted to, the idea being that by means of the irrigating fluid you may break down the adhesions which have encysted the pus and allow it free drainage. A drainage tube should be inserted, its length depending upon the depth of the cavity. I, personally, prefer double drainage, for the reason that with a double tube there is an easier exit for all solutions that are placed within the cavity. As has been said, the cure in empyema depends upon the entire obliteration of the pleural cavity, for that reason as the amount of pus becomes less as the cavity diminishes in size, the drainage tube should be removed and made shorter. Should fits of coughing be found to depend upon the pressure of the tube against the visceral pleura, a broad rubber flange should be placed upon that end of the tube. If we find that following this procedure there is still left a sinus leading to the upper portion of the pleural cavity, which, despite all stimulating irrigation, fails to respond by granulating closure, a counter opening should be made at its upper part, in this way treating it as we would a sinus in any other part of the body.

And this leads to the one and only point in this paper: Treat empyema as you treat an abscess cavity in any other part of body: drainage, irrigation when necessary, and counter opening.

Gentlemen, I thank you.

#### Discussion.

**Dr. Carl Wagner**, of Chicago.—Mr. President: In speaking of the treatment of cases of empyema, I always think of what Dr. Carl Beck, of New York, said in 1897. In discussing this same question he referred to the inadequate surgical treatment of empyema, especially to siphoning of abscesses or of large effusions. He expressed himself in this manner: "Siphoning, or making a small opening, not allowing for free drainage, was just like saying, 'Wash me, but don't wet me.'" (Laughter.) I am

certain that many of the formidable operations, like the Estlander and Schede operations, will be seen less often if early and thorough surgical interference is undertaken. The essayist said we should wash out the cavity once or several times, according to the indications, taking fever as one of the symptoms during convalescence; while others, I think the great majority, adhere to the opinion that this is not only impracticable but dangerous. I think I take the stand the essayist takes, that some of these cases of empyema need irrigation at one time or another.

I have a case at present in the hospital where, after the evacuation of the abscess, everything seems to be quite dry, yet about a pint of irrigating fluid brought out a mass of fibrin as big as a placenta. Everything went along nicely until the third day; no fever, but the discharge seemed so slight, that I resorted again to irrigation and there came away a large piece of fibrin, as large as a soup plate which had occluded the drainage opening. About the ninth day the patient did not feel quite comfortable; still there was no fever. Again, I irrigated, and another large obstructing fibrinous clot came away, and shortly after it a large secondary abscess discharged through the opening.

In regard to the size of the rib to be taken out for the removal of such collections, I believe it is wise in large abscesses not to take out one, but resect two ribs, and, if even according to the surgeon's judgment, three ribs to the extent of an inch and a half to two inches. I have personally witnessed Schede's operation for the treatment of empyema, especially his large thoracotomy, and have come to the conclusion that all Dr. Beck, of New York, has said in that direction should be endorsed.

**Dr. Albert Goldspohn**, of Chicago.—In this connection I might mention a rather unique experience. Several years ago, in four cases of empyema in children, I was requested by Dr. Futterer to operate on a couple of children and upon his own responsibility in this way: To empty out the pus mostly, and then to introduce normal salt solution, with about one part in five hundred of oil of cloves dissolved in it. This was introduced into the chest cavity and allowed to flow through a canula several times, and the cavity was finally left about one-half full of this solution. I did this altogether in four instances in children, in three of which it resulted, after the one washing, in a permanent, definite cure. In one case, the fourth, I did not have that fortunate result; this case subsequently required resection of ribs and the introduction of a drainage tube. In these cases of empyema I have adopted the constant practice of resecting, at least, one rib posteriorly, and one anteriorly, or two, if necessary, both anteriorly and posteriorly, and inserting a good large drainage tube. When that has been done, I have seen definite results, without requiring the more severe operations that are otherwise needed later. I have used the oil of cloves treatment effectually also in a couple of cases of pus in joints; in one case a metastatic affection that occurred in puerperal infection, washing out the knee joint with the oil of cloves solution.

The other was a case in which the wrist joint was involved. The joints were washed out with this oil of cloves in normal salt solution, and both cases ended in recovery after one washing.

**Dr. E. M. Sutton, of Peoria, Ill.**—The subject of empyema is particularly interesting to the country practitioners because we see it in children as well as adults. I did not hear the essayist say whether it occurs in children or in adults particularly. It follows pneumonia, and we rarely see the cases until empyema has developed. Then, there is usually a chronic abscess of the pleura, and in my experience this abscess is preventable. An operation that is performed for empyema is done for the pleural effusion which may clear up under medical treatment, but in those cases in which empyema does not clear up under medical attention, until after three or four weeks, when there is bulging on the chest, it becomes necessary to do the radical operations mentioned.

In two cases in which pleural pneumonia was recognized, the operation suggested by the essayist was performed and pure serous fluid drawn off. It filled the pleural cavity, compressed the lungs, so that the patient was in great distress from symptoms of heart displacement, but there was absolutely none of the textbook danger that is supposed to exist when we draw off suddenly fluid from the chest cavity. This leads me to think that the proper course to pursue in these cases is to treat them before they become empyemas, even if they are of tubercular origin from traumatism or from pleuro-pneumonia, and in that way prevent these deforming, crippling operations that have to be done for late empyema, when the abscess wall is as thick as that described by the essayist.

### COMPARATIVE EFFECTS OF SMALL-CALIBER HIGH VELOCITY BULLETS WITH BULLETS OF LARGE CALIBER AND LOW VELOCITY.\*

BY HOWARD CRUTCHER, M. D.

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Consulting Surgeon of the Chicago &  
Alton Railway Company.

During the fall of 1903, while hunting deer, I was privileged to observe at first hand some of the comparative effects of the two classes of projectiles above mentioned. The recent introduction of the metal-patched, soft-nose bullet for use in pocket firearms may give to this subject something of immediate interest.

At the outset some explanation of terms may be desirable. The figures 38-55, for ex-

ample, are presumed to cover a rifle of .38 caliber carrying a ball propelled by 55 grains of black powder. As a matter of fact, smokeless powder having superseded the black, as a rule, a quantity of the former corresponding in force to the latter is employed. To put the case in a few words as applying to a large number of present-day cartridges, the old standard of naming has been retained while a new motive power has been applied. Much confusion of mind seems to exist concerning the character of the various projectiles employed. A gentleman of fine general intelligence solemnly assured me that it was folly to attempt to bring down a deer with "any small caliber gun," giving as an illustration that he had shot a buck five times through the body without bringing him down, the animal falling at last before the fire of a 45-90 in the hands of an old hunter. This gentleman was using the so-called "war bullet," a solid metal-patched ball, without the soft lead nose that produces such deadly effects. Having something more than an ordinary acquaintance with woodsmen and hunters, I must confess that the reports concerning the merits of the two styles of weapons are very confusing. An old trapper will inspect a small-caliber gun with the remark: "All right for tin cans and fine shootin', but if you want to kill game don't fool with it;" and, pointing to a battered 45-90 hanging on the wall of his camp will assure you that no other firearm is worth considering. One man who has spent his life in the woods said to me one night: "I have thrown away rifles; a shotgun loaded with buckshot is the thing; it will tear an animal to pieces as nothing else will, and I always feel safe with that gun."

On the other hand, wandering into some far-off camp, one will find the owner busy polishing the newest type of small-caliber rifle, and ready to give his reasons for abandoning the older types of gun. In the cases cited below I give the facts, leaving the reader to apply his own conclusions.

A buck, gross weight, 125 pounds, was shot at a distance of 100 feet with a .38 caliber rifle carrying a soft lead bullet weighing 225 grains propelled by smokeless powder

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equivalent to 55 grains of black powder. The velocity of this ball was 1285 feet per second. The deer was struck three times, once through the lungs, twice through the abdomen. It ran over difficult ground for 20 yards, fell, and lived about ten minutes. It was dressed at once. The lung wound was the decisive one. The ball had struck a rib, which flattened it, and caused it to make a frightful wound through the lung tissue. The chest cavity was filled with blood. Two balls passed entirely through the cavity of the abdomen without striking any bone. There were nine distinct perforations of the intestines, slight laceration of the mesentery, and about four ounces of blood free in the cavity. I was surprised to note that the wounds of entrance and of exit presented no great differences as to size.

The second deer, about the same weight as the first, was shot at 225 yards, the weapon used in this case being one of the familiar 30-30 type, carrying a soft-nose bullet weighing 170 grains at a speed of 1960 feet per second. This ball passed through the abdomen without striking a bone. The animal ran fully a quarter of a mile after the shot, but was tracked by a broad trail of blood. On opening the abdominal cavity all present were impressed by the large quantity of blood and fecal contents present. Fecal extravasation was profuse. An attempt to classify the wounds was not practicable. Instead of perforations there were ragged lacerations of the hollow viscera which permitted the escape of torrents of blood and fecal matter. The stomach, although not in the track of ball, was ruptured from concussion. An old hunter who was present summed up the case by saying that the deer "must have been eaten' dynamite."

The third animal, a small doe, was shot at 350 yards, falling at the fire. It was believed that this animal had been shot through the head. The ball was of .30 caliber, weighing 170 grains, having a muzzle velocity of 1960 feet per second, struck the deer in the neck, shattering four of the vertebrae, obliterating the cord, and doing immense damage to the soft tissues of the neck. The great vessels of the neck were torn across, tremendous bleed-

ing resulting. The wound of exit was ten times the diameter of the wound of entrance.

The fourth case was that of a large buck. He was shot at 50 yards with the same weapon and ammunition as those used in the case next above reported. The ball struck his head near the insertion of the left antler. All the cranial bones were shattered, and brain substance was spattered several feet from where the animal went down. It may be questioned whether a charge of powder if exploded within the cranium would have produced greater havoc.

In this connection, two cases of bone injury may be of some interest. A deer was struck in the foreleg at 100 yards, the ball, of the 45-90 class moving at a muzzle velocity of 1480 feet per second, entering above the knee. This ball weighed 300 grains. The bone was badly shattered but the soft tissues were but slightly injured to all appearances. Bleeding was slight. Other shots, of course caused the fall of the animal. The second deer was hit with a soft-nose 30-30 ball, the shot taking effect in the region of the hamstrings. In this case the bone was destroyed for the space of several inches and the soft structures suffered most severely. In fact, the limb was all but severed. This animal was found nearly dead from bleeding and was easily captured. The blood vessels were open and death from bleeding was but a matter of a short time.

On August 16, 1902, a wildcat weighing 45 pounds was shot at a distance of 60 yards with a 30-30 bullet, the same as described above. The ball passed through the shoulders of the animal, the force of the blow knocking the cat six feet from the point of injury. The wound of entrance was no larger than the diameter of a lead-pencil, whereas the opposite wound measured two by four inches. I have seen few wounds that appeared more ghastly.

Those who have pursued the muscullonge and are familiar with the character of its flesh will appreciate this experience: One day a companion hooked a fish weighing about twenty pounds, and after a fierce struggle to secure his prize brought him to within a few feet of the boat. The captor begged me to shoot the fish, but as I had only



a high-power rifle at hand I urged the folly of such a course. At this protest he vehemently demanded that I shoot the fish, be the results what they may. By some mischance the ball fired at close range, entered the body of the fish lengthwise, and the result may be imagined. There was a frightful concussion in the water and the fish was blown to fragments. Those who have fired the high-velocity soft-nose ball through a tin vessel filled with water will appreciate something of what the effects upon a large muscallonge might be.

Concerning the effectiveness of the modern pocket firearm charged with the soft-nose bullet, considerable experimenting with this weapon does not seem to justify the belief that it will prove much if any the superior of the old-style revolver so far as killing power is concerned. For accuracy and rapidity of fire there is none that may justly be compared with it. Very high velocity is essential if the mushroom bullet is to be of advantage over the old style ball. The 30-30 ball travels 675 feet faster per second than the 38-55. Experiments looking to the perfection of a pocket arm that shall embody the small-caliber high velocity principle are all the while going on, and at no distant day we may expect to deal in daily practice with revolver wounds that approach in character those frightful injuries inflicted by the rifle charged with the soft-point bullet.

Columbus Memorial Building.

#### THE MEDICAL ETHICAL CODE.

Doctors are continually heard to say: "No, I can't do that. Its not professional." It is comparatively seldom that such an insistence on a professional code of ethics is noticed in the conversation of lawyers or of engineers or of other followers of specialized callings.

What is the medical ethical code? What are the principles which a profession, more profuse in its disinterested charities than any other profession in the world, has established for its guidance?

It was about 2,300 years ago that the practitioners of the art of healing began to take an oath emphasizing the responsibilities which the nobility and holiness of that art imposed upon them. Hippocrates, for ever to be revered, gave the oath his name. When a Greek physician took the Hippocratic oath and when the graduate of a modern medical school takes it the act is one not only of obligation for him-

self but of recognition for a great benefactor of mankind.

Here follows the Hippocratic oath in its essential parts:

I swear by Apollo the physician and by Aesculapius that I will reckon him who taught me this art equally dear to me as my parents, to share my substance with him and relieve his necessities if required, to look on his offspring in the same footing as my brothers, and to teach them this art if they shall wish to learn it. I will follow the system of regimen which, according to my judgment, I consider for the benefit of my patients and abstain from whatever is deleterious. I will give no deadly medicine to any one if asked nor suggest any such counsel. With purity and with holiness I will pass my life and practice my art. Into whatever houses I enter I will go into them for the benefit of the sick and will abstain from every voluntary act of mischief and corruption. Whatever in connection with my professional practice or not in connection with it I hear or see in the life of men which ought not to be spoken of abroad I will not divulge, as reckoning that all such should be kept secret.

No other secular profession has ever reached such a corporate consciousness of duties which it corporately owes to the rest of the world. The Hippocratic oath assumes that simply because a man has learned the art of restoring the sick to health he has passed into a realm in which the rules of personal selfishness are immediately abridged, if not expunged, and in which a new and special attitude toward human life must be taken.

In modern times the Hippocratic oath has been adapted and expanded till now it appears as far as Chicago is concerned in a sixteen-page booklet, entitled "Principles of Medical Ethics of the American Medical Association." The chapters of this booklet cover down to the smallest details such subjects as "The Duties of Physicians to Their Patients," "The Duties of Physicians to Each Other," and "The Duties of the Profession to the Public."

It seems that certain Chicago physicians have fallen from their high estate in respect of one of these duties. When a physician falls he falls from so great a height that the spectator cannot but be affected. Robert Louis Stevenson was not far wrong when he spoke of the modern scientific medical man as probably the noblest figure of the age. Except the priest, the physician is the first object of approach in distress. Except the priest, the physician gets deepest of all men into the heart of the community. The brethren of the physicians who have erred in the present matter must now lift their standard higher than ever. —Chicago Tribune.

Dr. John Howe of Russell, Lake County, recently married Miss Eva Rutledge, a school teacher and returned from a brief honeymoon to be assailed by a boisterous charivari party. Insistent demands of the crowd failed to coax the physician to the street. The clamor grew louder and at its height the bride flung open the door and rushed into the center of the noisy gathering. So taken aback were the members of the party by her sudden appearance and determined intention to disperse them that they fled. A ball player in his flight was injured so severely that he cannot enter the game for some time.

# The Illinois Medical Journal.

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NEXT ANNUAL SESSION, ROCK ISLAND, MAY 16, 17, 18, 1905.

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## MEDICAL GYMNASTICS AND MILITARY CALISTHENICS.

I am firmly of the opinion that a medical degree is as necessary to successfully prescribe and teach medical gymnastics as it is in prescribing medicine in the routine cases. Without a thorough knowledge of the blood vessels and muscles of the body, their uses and functions, no person should presume to teach exercises of this class. We must not get the idea that what is good for one patient is good for all. In my own experience both in private practice and in the army I have found it quite as difficult to correctly diagnose my cases and prescribe appropriate exercises as when prescribing internal treatment. It is reasonable to suppose that in exercising for health only such process should

be employed as will develop the powers and activity of the organs upon which your health depends. As the object of taking physical exercises is to develop the lacking functional power of one or more of the vital organs and functions which are deficient in this respect, and as this deficiency varies in different individuals both in regard to location and its degree of variation from the normal, it is evident that no exact schedule can be formulated that will be suitable for universal use. Both the selection and the order of arrangement of such exercises must be decided by individual needs.

What these individual needs are depends upon the defective conditions of the system which have either been inherited or acquired.

Bodily exercise is no new thing, for the

Ancients practiced it, more systematically perhaps than we do. Indeed all peoples upon emerging from barbarism and turning to the less active arts of civilized life, have felt the need of athletic sports and systematized physical exercise to take the place of the marauding and hunting of their former savage mode of existence.

The opinions of former generations of medical men have not yet been outgrown by laymen, and many of the latter think that a permanent anatomic defect in the heart means sudden death, which is especially apt to be caused by physical exertion. The fact that overexertion, either mental or physical, can cause dilatation, and, perhaps fatal weakness, of the heart when it is defective, led to the prevalent opinion just expressed. Stokes, in the middle of the nineteenth century, was one of the first to register his disbelief in the danger of all exercise, and even faith in the curative effect of suitable kinds, for he wrote:

"The symptoms of debility of the heart are often removable by a regular course of gymnastics or by pedestrian exercise, even in the mountainous countries, such as Switzerland or the highlands of Scotland or Ireland<sup>1</sup>."

We all know the unsatisfactory results that we get in treating the various forms of heart disease with digitalis, strophanthus, strychnia, etc. Davis, Fitch<sup>2</sup> and other men have been much gratified with the results they have obtained in heart disease, rheumatism, anemia and obesity by using physical methods in conjunction with indicated medicinal treatment. In my own hands the method has been a great success. The history of the following case I believe will be of interest.

Dr. W., a well known Chicago practitioner had for years suffered with a very weak heart action and rapid pulse, he had

been continuously under treatment for ten years when I outlined a series of resistance gymnastics for him, commencing of course, with the gentlest forms of exercise and gradually increasing the resistance. In one year his pulse beat had decreased from 95 to 80, heart action showing strength to correspond.

The most desirable thing in human life, now as it has been forever, is a sound mind in a sound body. Rational exercise will assist us to keep the body sound and wholesome and walking is the best form of exercise. When exercise is necessary the best prescription for the patient is, swing into an erect, lively, natural gait and cover a mile or two, or three, or more as your constitution warrants. Do this for several nights and you will soon find a great and salutary improvement in your health, appetite, physique and also temper. If conditions are such that walking cannot be taken, then a series of medical gymnastics and military calisthenies can be outlined that will be pleasant and beneficial and the best substitute for the outdoor work. Instruct the patient how to breath to the best advantage, deep breathing through the nostrils only, and then to walk and you have the ideal exercise.

In the early or first stage of pulmonary tuberculosis suitable exercise in the open air, combined with rest and nourishment promises better results than former methods. Tuberculosis was unknown among the American Indians until "store goods" and rations took the place of the food obtained by strenuous exercise, the daily hunt and chase. In obesity the fat is not on the surface alone, it is deposited at the expense of muscular fibre in the substance of the muscles and about the organs, and the heart suffers from this degeneration and is weakened. By properly regulated and graduated exercise this fatty heart will be enabled to throw



off its burden and renew its damaged tissues. Military calisthenics or exercise is the best, weights are dispensed with, there is no straining or over training, strength and agility are obtained. You avoid abnormal development, too much muscle is as great a calamity as too much fat.

Many people are seriously injured by the so-called "physical culture" fad and abnormal muscle fake, taught by men and women who adorn the magazines with a "naked" display of unnecessary muscle, we know the bubble will sooner or later burst and collapse follow. When exercise is taken to prevent or combat disease the course should be under the direct supervision and guidance of a physician or harm may ensue.

1. N. S. Davis, Jr., *Journal A. M. A.*, Nov. 14, 1903.

2. Walter Fitch, *Chicago Medical Record*, June, 1903.

P. G. H. Farrell, Chicago.

#### DR. FAIRBROTHER'S LETTER.

For fear that all our readers have not read the letter of Dr. H. C. Fairbrother, of East St. Louis, member of the State Board of Public Charities, to the *Journal of the A. M. A.*, published October 15th, 1904, and the able, complete and unassailable answer made to the state official by Editor Simmons, we republish below the communication in full.

This is the second time a member of the State Board of Public Charities has attempted to lecture us for our attitude of opposition to the present manner of conducting the charitable institutions of this state. The first was the letter of the Secretary, Col. J. Mack Tanner, published in the April, 1904, issue of this *Journal*, page 814. The letter of Col. Tanner like that of Dr. Fairbrother carries its own condemnation.

#### State Supervision of Public and Private Care of the Insane.

East St. Louis, Ill., Oct. 2, 1904.

**To the Editor:**—In your editorial, September 17, with the above title, your reference to Illinois institutions may admit of a little explanation. Your speak of the "ruin" wrought and their "fall" under the present system, as shown in articles in the *Illinois State Medical Journal*. I am aware that some such articles were published, but I believe the profession generally understands the animus and circumstances under which they were published. But when such reference to our charitable institutions is made in a journal of national circulation the matter assumes a different aspect.

Now, I am deeply interested in these institutions, am a visitor of them, and of similar institutions in other states, and if it can be pointed out to me in what particular, in any one of these institutions there is a defect, I will make an effort to remedy it. If any defects can be shown in the medical treatment of our insane, any want of efficiency or kindness on the part of nurses, any harsh treatment on the part of attendants, any lack of cleanliness or sanitary condition in the buildings or grounds; if, indeed, there is any point in any one of these institutions that will not compare favorably with any other institution for the insane in this country, I most earnestly want to know it.

I will gladly accompany you, Mr. Editor, or the former editor of the *Illinois State Medical Journal*, to any of these institutions you may select for this observation.

With reference to "the loss to the state of eminent medical men," I can recall but one change in superintendents during the present administration, that at Jacksonville, and that was certainly not for political reasons.

H. C. Fairbrother, M. D.,

Member State Board of Charities.

[We do not question the good faith of the author of this letter. As to the editorials in the *Illinois State Medical Journal*, we know nothing of their "animus" nor of the "circumstances" under which they were written. They appeared in the editorial columns of a highly respectable medical journal, and as we recall, they were warmly commended at the time by the leading Republican daily of Chicago, and were indorsed in the issue of *The Journal*, Feb. 20, 1904, because they seemed to us to show, without personality or partisanship, the evil effect of political influence on a body of institutions whose directing spirit should be purely that of medical science.

The writer of the above letter states that he has no knowledge of any defects in the Illinois institutions, but expresses an admirable willingness to remedy them if any can be shown to him. It would be no difficult task to do this. The subordination of the Illinois institutions to party politics has been so evident that it is now a public issue in the state, and neither party dared to frame a platform this year without a plank demanding a merit system for the appointments to these institutions. A powerful voluntary organization of representative men

throughout the state has been formed for the express purpose of securing a state civil service law, and, as its reports will show, the primary need of this law was found in the condition of the state institutions. For the past eleven years, since the inauguration of the spoils system in 1893, at least 90 per cent of the offices, over 2,500 in number, in the state charitable and penal institutions, have been used for the payment of political debts or the purchase of political power. This system has naturally resulted in a deterioration in the management of our institutions. At the present time, in at least nine cases out of ten, fitness and experience combined have no influence in obtaining a position even in the insane hospitals.

There is one respect in which the institutions of Illinois do not compare favorably with "other institutions for the insane in this country." There is no governing body whose members are appointed and hold office in a way that makes it a proper body to hear complaints and investigate charges. The State Board of Charities is appointed by the same head who appoints the superintendent and chief officers of the various institutions, and as a consequence they are naturally inclined in all investigations to shield the management rather than to protect the inmate. For specific instances we may point to the Kankakee investigation, to the Elgin investigation, and to the attempted investigation of the Illinois Industrial Home for the Blind. It is fair to say that the instances referred to occurred before Dr. Fairbrother's very recent appointment to the board. For details we refer him to the "Plea for a State Merit Law" published by the Illinois Civil Service Association. That Illinois has lost the good name she once boasted of is shown by the fact that a commission appointed a few years ago by the governor of Pennsylvania to visit the various state charitable institutions and report on the same, passed through Illinois, stating in a personal interview with the representatives of the press in Chicago that they could learn nothing from the Illinois state charitable institutions, as they were among the lowest in point of efficiency.

Our correspondent questions our assertion as to "the loss to the state of eminent medical men" and says he knows of but one change in superintendents in the "present administration." We can not state too emphatically that we intend no reflection on the "present administration" of Illinois or of any other state. **The Journal** does not lend itself to partisan politics, nor does it hold any one administration responsible for the general situation, but it has been repeatedly pointed out that political control of public medical charities under any administration always has been and always will be disastrous.

We are sorry to say that, unlike our correspondent, we are able to recall a considerable list of excellent alienists who by various "methods of elimination" have been removed from the service of Illinois since 1893, when the period of political control set in. Among these are a pathologist of national reputation, the successful heads of three large institutions in other states, the superintendent of another public in-

sane asylum which is now among the most progressive in America, and others equally meritorious but less conspicuous.

We would remind our critic that the points mentioned in this letter are not the only ones in which we have a right to demand a high standard for our insane asylums. Let him compare the medical, surgical and laboratory work in the asylums of Illinois with that carried on now in New York, Minnesota, Michigan and Ohio—the actual volume of scientific, clinical and pathologic work as evidenced by publications in the current literature. Cleanliness and kind treatment are certainly necessary, but the twentieth century has advanced beyond these points, and so long as mechanical restraint still obtains in our asylums, so long as they still retain the "Utica crib," and so long as they fail to keep up with the march of modern psychiatry, so long shall we be justified in our criticism of them.—Editor.]

#### HOME FOR CONSUMPTIVES FRAUD.

Evidently a number of schemes to defraud the public through fraudulent hospitals are in existence. One of the latest exposures was made recently in Chicago. The daily press of that city report the following:

The testimony of four women who, in the guise of nuns, it is said, have been soliciting subscriptions for an alleged consumptives' home, may lead to further investigation of similar institutions by the police. The home for which the money was collected was conducted by William F. Maharg, a former city chemist. It was located at 954 North Clark street.

Maharg was fined \$100 by Justice Mayer. The women arraigned on charges of disorderly conduct were: Mrs. Ella Burkhardt, 1009 Wilcox avenue; Theresa Murphy, 12 Hill street; Mrs. Hilda Martin, 119 West Van Buren street; and Mrs. Ella Kluer, 119 West Van Buren street.

None of the appurtenances of a hospital was found at the Maharg house.

"There was only a table and a telephone," said Inspector Shippy. "Although the women say they were paid \$2 a day, I have reason to believe they received a commission on the collections."

**GREEN SISTERS OF CHARITY.**

Several times during the past few months two women dressed in "loud" green and white costumes made to simulate the garb of a nursing sisterhood have paraded the streets of Springfield seeking aid for an epileptic hospital in or near Chicago. These persons or others similarly dressed have been seen on the Pike at the St. Louis exposition. It is said that no such institution, as they claim to represent, exists and members of the profession in other parts of the State would do well to give them a wide berth in their communities and should warn the laity against them.

## Correspondence.

**DR. BRIDGES OFFERS HIS AID.**

Stonington, Ill., Oct. 8, 1904.

Dr. Geo. N. Kreider,  
Springfield, Ill.

Dear Doctor: I have just read in the Illinois Medical Journal the circular letter appointing a committee on Promotion of Non-Medical Citizens, with interest. And you ask if you may use my name in this connection. I will only be too glad to help along so much needed an enterprise as this.

I don't think we should sit with folded hands while this great army of patients is dying with tuberculosis.

Yours respectively,

W. T. Bridges.

**LOOK OUT FOR THE IMPOSTOR.**

New York, Oct. 12, 1904.

To the Editor of the Illinois Medical Journal  
Sir: We are informed by a physician in Elroy, Wis., that a person purporting to be an agent of ours has obtained money from him on the representation that we would send our Formalin Lamp as a free sample to any doctor who pays the transportation charges.

The man is not in our employ and is an

impostor. As he may be victimizing the profession extensively, we would appreciate your kindness to warn your readers through your columns. None of our representatives would ask for or accept money from the physicians on whom they call, and any one who claims to be our agent and does so is a fraud.

Yours respectfully,

Schering & Glatz.

**THE OTTAWA TENT COLONY.**

To the Editor:

The success thus far attained in the Ottawa Tent Colony for the treatment of tuberculosis has placed the enterprise well beyond the experimental stage. Sufficient time has not yet elapsed to report any cures, but the results have been fully equal to those obtained in the same length of time in other sanatoria.

The treatment is out-of-door life, a carefully selected diet, regulation of exercise and medication for the improvement of nutrition. A marked improvement has been observed in all stages of the disease, but in the early cases the results are most satisfactory. The patients for the most part are cheerful and contented with their surroundings. As a rule they accept uncomplainingly the primitive life which the treatment imposes. The greatest difficulty experienced is to hold some of them long enough to make the improvement permanent.

The colony will be continued throughout the winter. Patients whose condition makes it desirable to live in tents will be recommended to do so. Those who should not, or will not, will be comfortably housed. A tent is intended simply as a sleeping apartment. Tent life as carried out for the treatment of tuberculosis soon becomes thoroughly enjoyable. Before beginning such a life patients almost invariably entertain exaggerated ideas of its dangers and inconveniences. A short trial soon dispels this fear, and they are with difficulty induced to return to an indoor life. It should be understood, however, that during the winter patients will be given their choice, and those who object to living in a tent will be comfortably housed in such a manner as will comply with the essential principles of the present-day treatment. Experience teaches that the results are even better in winter than in summer, therefore physicians should not hesitate about sending patients during the winter months. The tubercular patient, when well fed and warmly clad, feels the exhilarating effects of cold weather quite as much as the normal person, but will not avail himself of these valuable aids in the restoration of health except when under careful supervision.

The Ottawa Tent Colony is not a business enterprise. It was not established for profit, nor as a charity, but on as nearly a self-supporting basis as possible—all medical services being gratuitous—in order to demonstrate the



primary fact that tuberculosis can be cured in our own climate. To this end the co-operation of physicians is earnestly solicited. They are cordially invited to visit the colony and see for themselves the good work we are doing. If they can not accept this invitation any information desired will be cheerfully given.

J. W. Pettit,  
Chairman Tuberculosis Committee,  
Illinois State Medical Society.

#### NO METHYL ALCOHOL IN THE JAMAICA GINGER.

Springfield, October 17, 1904.

The Editor, Illinois Medical Journal,  
Springfield, Ill.

Dear Sir—Referring to the communication in the Journal of last August, under the caption "Death from Poisoning by Methyl Alcohol," I beg to say that, at the request of the State Board of Health, I had a bottle of the Jamaica ginger referred to purchased in open market and a careful analysis made of the contents.

The analysis showed no trace of methyl alcohol, although, as was to be expected, ethyl alcohol was found.

Very respectfully,

F. C. Dodds,  
Secretary State Board of Pharmacy.

#### DR. PETTIT RECEIVES OFFER OF AID.

Ottawa, Ill., Oct. 19, 1904.

Dr. G. N. Kreider,  
Springfield, Ill.

My dear Doctor—I apprehend that the most critical point in the history of the Tent Colony will be about the beginning of winter. I fear that many patients will hesitate about making application for treatment through a misunderstanding of what it will mean in the winter time. Therefore, it will be necessary to emphasize the fact that patients will not only be properly cared for, but that the success of treatment is greater in winter than in summer. If you can find a place for the enclosed announcement, you will confer a favor by doing so.

Yours fraternally, J. W. Pettit.

Chicago, Ill., Oct. 12, 1904.

Dr. Jas. W. Pettit,  
Ottawa, Ill.

Dear Doctor—I take the liberty of enclosing a clipping from the "Daily News," of

the 7th inst., which you may have already seen. That I am vitally interested in such matters I need not say to you. My purpose in writing you, however, is for this object, viz.: that you permit me to offer my services as a member of your "committee on promotion." I am in a position to obtain for you both money and men, the former as "munitions of war" and the latter as "the men behind the guns," to indulge in the language of these war-like times. I hope you will let me do something in this cause and let me get in touch with you very soon.

Hoping to receive an early and favorable reply, I am

Very sincerely,

H. Alex. Lipsky.

3142 Lake Park Avenue.

October 14, 1904.

Dr. Geo. N. Kreider, Editor,  
Springfield, Ill.

Dear Dr. Kreider—I enclose you a letter written to me by Dr. Phifer of Shumway recently, relative to my article "A Matter for Consideration," published in the correspondence columns of the October issue of the Illinois Medical Journal.

This letter should be read by all of our society members; having obtained Dr. Phifer's permission to have it published, I most respectfully ask you to publish it in the correspondence columns of the November issue of our State Journal.

Does not the doctor cite a deplorable state of affairs? Do you suppose a worse state of affairs exists in the state?

Thanking you, I am,

Fraternally yours,

Dr. F. Buckmaster.

P. S.—Dr. Phifer's letter to me follows:  
Shumway, Ill., Oct. 12, 1904.

Dr. F. Buckmaster,  
Altamont, Ill.

Dear doctor—Since I came home I have looked up your article in the Illinois State Medical Journal, and have read it carefully. The article makes clear the point in your remarks yesterday, and I endorse the sentiments fully. I know of one physician who

is pushing a patent kidney medicine of his own patenting. He holds the position of examiner for the———. I do not well know how the company can trust its interests in his hands, as I feel sure that it is a safe bet that he cannot make the most simple urinalysis for albumen or sugar. The fact that he is not regular should bring him and all such within the scope of your paper and should be acted upon.

I am with you in any more move you make along this line, and any other, for the elevation of the profession.

Wishing you success, I am,

Truly yours,

J. N. Phifer.

#### PROTEST TO THE UNIVERSITY OF MICHIGAN.

Detroit, Mich., October, 1904.

Dear Doctor—In the interest of good citizenship and of the medical profession, I ask you for your earnest and energetic assistance in the following matter:

The Medical Faculty of the University of Michigan are required to furnish gratuitous medical and surgical service to all people of this or other states, regardless of their financial ability to pay for such service. Such a ruling on the part of the Board of Regents of the University of Michigan is most unjust and injurious in the extreme. That this ruling should be reconsidered is evident.

It appears, however, that the most vigorous protest of the medical profession within the radius of the influence of the University of Michigan will be required to attain this object. Therefore, I ask you to immediately write a vigorous letter to each member of the Board of Regents of the University of Michigan, viz.:

Hon. James B. Angell, LL.D., Ann Arbor, Mich.

Hon. Charles D. Lawton, Lawton, Mich.

Hon. Henry S. Dean, Ann Arbor, Mich.

Hon. Arthur Hill, Saginaw, Mich.

Hon. Levi L. Barbour, Buhl Bk., Detroit, Mich.

Hon. Henry W. Carey, Manistee, Mich.

Hon. Frank W. Fletcher, Alpena, Mich.

Hon. Loyal E. Knappen, Grand Rapids, Mich.

Hon. Peter White, Marquette, Mich.

Furthermore, to ask your County Society to pass a resolution to that effect and to have the Secretary forward it to the same gentlemen, at once, and to use all other influence in your power to re-establish sound conditions.

The assistance of the County Auxiliaries of Wisconsin, Illinois, Indiana, Ohio and Michigan is requested simultaneously.

Sincerely yours,

Emil Amberg,

Michigan Member of the National Legislative Council of the American Medical Association.

### News Items.

Dr. Jas. Warren Vanderslice has returned from Europe and resumed practice. His office is in Medinah Temple, 183 Jackson boulevard, Chicago, and his residence, 221 North 64th ave. Oak Park.

The New Swedish-American Hospital Association has been inaugurated for the establishment of a hospital on the South Side, Chicago. Among the promoters are: Rev. Eric Rosen, 5915 Emerald ave.; Rev. A. L. Mystrom, 5742 Aberdeen st.; Carl Lundberg, real estate broker, 5915 S. Halsted st.; C. F. Palmquist, 6111 S. Halsted st.; O. C. Peterson, lawyer, 79 Dearborn st.; Adolph Anderson, life insurance, 5441 5th ave.; Dr. C. F. P. Korssell, 5609 Indiana ave.; Ernest Bihl, 419th st., and Dr. W. A. Peterson, 3046 Wentworth ave.

As a rule all hospitals are charitable institutions and managed on that plan, but the Swedish-American Hospital Association is a stock company organized for the profit of its stockholders, and by our adopted plan we are assured that there will be paid a substantial interest on the capital invested. There will be a separate and independent department for charity work, which will be managed under an endowment fund plan, and with that our organization will have nothing to do. So, while our hospital will accept charity cases as most other hospitals do, and turn no unfortunate away, yet that work will be entirely separate from our organization. The hospital will be large and commodious, first class and modern in all respects. Ample funds will be provided so that the enterprise will be a credit to its promoters and stockholders.

Dr. George F. Butler has severed his connection with the Alma Springs Sanitarium, at Alma, Michigan, where for nearly five years he has been medical superintendent, and has re-

turned to Chicago where he will henceforth limit his practice strictly to internal medicine. He will fill the chairs of professor of Therapeutics in the College of Physicians and Surgeons, and Professor of Medicine in the Dearborn Medical College; he has also been appointed as one of the attending physicians in the Samaritan Hospital. Dr. Butler will continue to edit and publish his magazine "How to Live," and it is understood that he has under way another medical work for a Philadelphia medical book publisher.

**Dr. Howard A. Kelly** of Baltimore was the guest of Dr. Clifford U. Collins at Peoria, Sept. 22d and 23d. A general reception to the profession was held at the parlors of the St. Francis Hospital, Sept. 22d, between four and five in the afternoon. In the evening Dr. Collins gave a dinner in honor of Dr. Kelly at the National hotel. Dr. O. B. Will made an address in which he reviewed the career of the distinguished visitor. Dr. Kelly responded and complimented Peoria on her well-equipped hospitals and commented on the harmony that seemed to exist among the members of the profession there. Dr. Kelly held a clinic at the St. Francis Hospital at nine o'clock on the morning of the 23d. In the afternoon he left for St. Louis where he presided over the section of Gynecology of the Medical Department of the Congress of Arts and Sciences.

**Dr. T. O. Hardesty** has moved from Kampsville, Ill., to Jacksonville, Ill., leaving a good opening at Kampsville for some good doctor.

**Dr. W. A. Kuflewski** of the Chicago school board has presented resolutions to that board prescribing new methods for sweeping and cleaning public schoolrooms, claiming that the health of every pupil is daily placed in jeopardy by the system now in use:

"The insanitary practice of sweeping the schoolroom floors without wetting them and with the windows closed, and the filling of rooms with clouds of chalk dust every time the blackboards are cleaned, place on every child the danger of falling a victim of pulmonary disease," said Dr. Kuflewski. "Dust causes the spreading of disease, especially of tuberculosis."

#### Favors Use of Chemicals.

The resolutions of Dr. Kuflewski made the following recommendations:

That the floors of all public schoolrooms be covered with sawdust wet with a solution of bichloride in the proportion of 1 to 4,000, and then thoroughly swept.

That all windows shall be wide open during the sweeping and cleaning of schoolrooms, provided the weather will permit.

That all blackboards be wiped off with wet sponges to prevent the spreading of the chalk dust, which is exceedingly injurious to the lung tissues.

That all furniture and woodwork be wiped off at least once a month with a solution of bichloride.

That all windows and doors be left open during intermission, except in inclement weather.

Taking the regular course, the resolution was referred to the buildings and grounds committee.

**Dr. J. T. Little** of Bloomington, was elected Secretary-Treasurer of the Illinois Association of Union Ex-Prisoners of war at the meeting recently held at Decatur.

**Dr. G. Frank Lydston** of Chicago, has purchased from Mrs. Bertha Cockburn the new apartment at 4915-4925 Calumet avenue, 150x130 feet of ground, for \$85,000, with incumbrance of \$36,000. The building contains eighteen apartments of six rooms each. In part payment the purchaser conveyed to Mrs. Cockburn the residence property at 2817 Indiana avenue and two vacant tracts of land at Edgecomb place and Evanston avenue valued at \$45,000.

**Dr. E. C. Dudley** and Miss Dorothy Dudley, 3319 Indiana avenue, have returned from the Pacific coast, where they spent nine weeks.

**Dr. Joseph Zeisler** has returned from Europe after an absence of two months.

#### Uncle Sam Takes a Hand.

It is only natural that the action of the United States government, mentioned in the article published below, from "The Boston Transcript," which took place shortly after the publication of the article on "The 'Patent-Medicine' Curse" in the May issue of The Ladies' Home Journal, should be encouraging to us in a special degree:

"A vigorous crusade of almost gigantic proportions, and calculated to eliminate from among American advertised industries one of the most extensive frauds ever practiced, has been undertaken by the post office department. With the assistance of government scientists the department seeks to bar from the use of the mails the host of patent medicine concerns and exploiters of proprietary medicines and nostrums which chemical analyses show are incapable of performing the wonderful cures claimed for them. On the list are preparations which purport to cure dipsomania, yet contain large percentages of alcohol, some of which are vended as harmless but are found to be deleterious; others which are advertised as 'consumption cures,' but contain no recognized remedy for tuberculosis, and still others which are sold as restoratives of vitality, but which are entirely incapable of accomplishing any such result. Although this work is still in the initiatory stage, sufficient evidence has already been discovered to warrant the conclusion that many of the widely advertised patent remedies are rank frauds, which cannot be of any benefit whatever, too often relying on alcohol to produce temporary exhilaration and likely to lead eventually to chronic alcoholism."

"Governmental control of the mails makes the post office department absolute master of the situation, with power to exclude from the use of the postal service every letter addressed to and every circular sent out by the concern which, in the opinion of the postmaster-general,



is conducting a fraudulent business, and to go even further and exclude from passage through the mails every newspaper or other publication which, once a fraud order has been issued, persists in carrying the advertisement of the concern so excluded. No legal proceedings are necessary to accomplish these ends, and the entire burden of proof rests on the proprietor of the patent medicine or the concern to which the use of the public mails was forbidden. For that reason, it is believed, it will not prove difficult to drive out of business the individuals and institutions which seek to delude and defraud the public, while the department, after careful investigation of the subject, is convinced that the 'patent medicine fake' is a greater humbug than any of the 'get-rich-quick' concerns which have thus far been excluded from the use of the mails."

"The depth of deceit practiced by proprietors of alleged patent medicines and nostrums, and the character of the diseases which they pretend to cure, especially that class which yields the greatest profit, are such as to preclude description in the public prints, and must be left for discussion in scientific publications; but it may be said that they are appalling, and, unless substantiated by indubitable evidence, would be beyond credence. But it is not to any class of nostrums that the department has directed its attention or in which it has found fraud to exist. Out of the first sixteen different remedies analyzed by the Department of Agriculture, at the request of the post office department, only one was found to possess any merit whatever in such cases as it was advertised to cure, and the one which possessed merit was only what a practicing physician would have prescribed under known conditions, although the physician would doubtless first have pains to ascertain if the remedy was required."

"An explanation of the numerous testimonials which are published as proving the efficacy of the various 'remedies' is believed to be afforded by special analyses conducted solely to ascertain the per cent. of alcohol. The administration of more or less dilute alcohol in small doses at regular intervals will, it is explained, produce temporary exhilaration, and the victim will for a time believe that extraordinary results have been achieved by the so-called remedy. Some of these analyses are interesting."

"The remedies analyzed were found to contain from seven to forty-five per cent. of alcohol. The post office department has not entered upon this crusade without careful thought and preparation, and has been assured by the Department of Justice that even if those concerns excluded from the use of the mails seek to compel a reversal of the postmaster-general's decision in the courts, such suits will prove unavailing. The postmaster-general has been advised that a decision of the United States Supreme Court, in the case of a Chicago afternoon paper published in 1895, carries with it full warrant for the course now proposed by the department, and that there is no fear that the courts will not sustain the action of the postmaster-general in excluding from the mails

any correspondence addressed by or to any concern which, in his estimation, is guilty of fraudulent dealing, misrepresentation, improper labeling, etc., and also that he can go further and exclude from the mails all publications which may carry the advertisements of such concerns as have come under the ban."

**Dr. C. R. Bell** has located at Thayer, Macoupin County.

**Dr. A. T. Bartlett** the oldest practitioner of Virden has finally closed his office and removed to St. Louis. Dr. Bartlett has practiced 39 years in Virden and served over three years as surgeon during the war of the Rebellion. He will be greatly missed from Illinois.

**Dr. John P. Matthews** of Carlinville who was seriously ill for several years, has so far recovered his strength that he is able to attend to office and consultation practice. He retains his mentality with remarkable vigor.

**The Staff of the Cook County Hospital** has been reduced to sixty-five members and a merit test has been provided for appointment.

The action was taken at the suggestion of President Foreman, and is intended to reform what are recognized as serious abuses.

Previously the only limit to the size of this staff has been the judgment of the county board, which selected it. There now are 113 physicians and surgeons. No pay goes with the appointments, but they are sought eagerly, both on account of the practice which they afford and the standing in the profession that they carry with them. With the exception of a few prominent surgeons and physicians who were named of necessity, most of the appointments have been made for political reasons.

#### **Declares Staff Is Too Large.**

"The attending staff at the county hospital," wrote President Foreman to the board, "has grown so large as to impair its efficiency and work a hardship on the doctors who stand ready to render their best services to the county."

On receipt of the communication the commissioners, Flannigan alone voting in the negative, adopted this order:

"Resolved, That hereby there are created the following positions, to be filled by competitive examination conducted by a competent examining board under the direction of the civil service commission and in accordance with the provisions of the civil service law:

	Allopathy.	Homoopathy.	Ecclectic.
Surgical .....	12	3	3
Medical .....	8	2	2
Children's department.....	4	1	1
Contagious and skin diseases.....	4	1	1
Obstetrics .....	4	1	1
Eye, ear, nose, throat.....	4	1	1
Nervous diseases.....	4	1	1
Totals .....	40	10	10

General science—Dentist, 1; pathologists, in addition to resident pathologist, 2; pathological chemist, 1; X-Ray operator, 1.

**Prominent Physicians on List.**

How some of the best known physicians and surgeons of Chicago will fare in the examination is an interesting question. Present members of the staff, who must take it if they are to become a part of the contemplated permanent staff, include John B. Murphy, Frank Billings, William E. Quine, D. H. Babcock, Daniel R. Brower, Sydney Kuh, Frank B. Earle, W. A. Evans, L. Hektoen, G. F. Hawley, George W. McFatrieh, William J. Butler, W. L. Baum, and Allen T. Haight.

The board also provided for an eligible list for internes at the County hospital and Dunning, from which members are to be taken as they are wanted.

**Dr. Howe** has changed his location from Rockford to Streator.

**Dr. R. L. Smith** has moved from Chicago to Lexington.

**Dr. H. A. White**, formerly of St. Charles has located in Clinton, Iowa.

**Dr. Tafel** of Chicago Heights has removed to Phoenix, Ariz.

**Dr. C. H. Francis** of Chicago is taking post graduate work in Edinburg.

**Dr. Harry Bennett** has located in Litchfield with his father.

**Dr. Dolton and Wife** have located in Barrington.

**Dr. Ralph Herbert** has located at Poplar Grove.

**Dr. Ludwig** of Kingston has located in Chicago.

**Dr. Frank Stubblefield** of Peoria was appointed assistant physician in charge of the north annex at the Central insane hospital, Jacksonville, vice Dr. E. E. Peters.

**Dr. H. N. Russell** of Farmington has located in Lawrence, Kans.

**Dr. Blair** of Monmouth has located in Lawrence, Kans.

**Dr. John Edwin Rhodes** and his family, who spent August at North Manitou Island, Mich., has returned to Chicago.

**The State Board of Health** has appointed R. B. Charles, Charles Messenger and Hugh Riley as deputy lodging house inspectors in Chicago.

**Dr. and Mrs. Edwin B. Tuteur**, 3645 Grand boulevard, have returned to the city after a month's absence on a vacation.

**Dr. and Mrs. Thos. J. Jackson** and daughter, 521 Thirty-ninth st., have sailed for Europe.

**Dr. Vida A. Latham** of Chicago was elected vice president of the American Microscopical society.

**Dr. G. O. Calhoun** has moved from Farmingdale to Lowder.

**Dr. Frank L. Mueller** and his wife, 59 West Foster avenue, while driving in Lincoln Avenue, Chicago, were thrown from their buggy by a collision with a north bound Lincoln Avenue car and sustained injuries that may result fatally.

**Dr. John S. Organ** was nominated for representative for the first senatorial district.

**Dr. Chas. H. Neilson** of the University of Chicago has been elected associate professor of Physiology in the University of St. Louis.

**The North Central Illinois Medical Ass'n** will hold its regular annual (31st) meeting at Pontiac, Dec. 6th and 7th. The membership of this Society is limited to Bureau, De Kalb, Grundy, Kendall, La Salle, Lee, Livingston, Marshall, Putnam, Whiteside, Woodford and adjoining counties. The meetings heretofore held at Pontiac have been largely attended and enjoyable. **Dr. Geo. A. Dicus** of Streator is secretary-treasurer.

**Dr. E. E. Faulkner** who has practiced in Chicago has returned to Des Moines, Iowa, his former location.

**Dr. D. H. R. Patton** has removed his office from 1558 Wabash Ave., to 2204 Michigan Ave., S. W. Cor. of 22d St., Chicago.

**The Englewood Union Hospital** is projecting a new building. The institution was established in January, 1893, and was first located on Sixty-Ninth street, near Stewart avenue, in a two-flat building. The next fall it was moved into a twelve-room house on Wentworth avenue and remained there until the Spring of 1894, when it was moved to 840 West Sixty-Fourth street into a six-flat building containing fifty-four rooms, where the institution now is.

The cause of moving each time was the need of more room, and another move must be made because of insufficient room to take care of the patients. The growth of the hospital has been marvelous, starting in a very small way, growing larger each year, until the last year there were 920 patients, giving 12,715 days of hospital service.

The gross earnings of the Union Hospital this year were \$24,972.40. The amount of charity work done during the year was \$5,361.46. The quarters are now too small and the building is not convenient for the work; so in order to take care of the increase of both pay and charity patients it is necessary to have a larger building.

The hospital authorities urge and request the people who are interested in the public welfare of Englewood to visit the hospital, look over the work, and express opinions as to what ought to be done. It is the desire of the hospital board to do that which the people want, and they are now looking for an expression of public sentiment. The meeting called at the First Methodist Episcopal church, Sixty-Fourth street and Stewart avenue, on Sunday, Oct. 9th was enthusiastic and aroused public sentiment. Various churches, social clubs and fraternal orders were requested and the personal and general interest manifested was most encouraging.

It is the intention of the Board of Managers to issue \$80,000 in bonds of various denominations as low as \$25, bearing 4 per cent interest, payable semi-annually, and build a large and well-equipped hospital from the proceeds of the sale of these bonds. The ground has already been secured and is 150 feet by 240, situated half way between Sixty-Third place and Sixty-Fourth street, and extending all the way through from Emerald avenue to Union avenue.



The Promotion Committee is composed of the following men: I. W. Cranmer, chairman; Joseph Uhrig, secretary; Orville T. Bright, J. H. Brown and the Rev. J. A. Randthaler.

Dr. Harry F. Bennett, who for the past ten years has been practicing his profession in Chicago, has located in Litchfield and will practice with his father, Dr. R. F. Bennett.

Dr. C. J. Curless left Meredosia for Lacrosse, Wis., where he goes to be operated on for appendicitis.

Dr. Geo. E. Baxter of Chicago, has been visiting relatives in Jacksonville, Griggsville and New London, Mo.

Prof. Koch, at present in Paris, proposes to make Paris his permanent home. He will visit German South Africa on a government mission shortly.

### Third Annual Report of the Civil Service Reform Committee of the Illinois Federation of Women's Clubs, October, 1904.

Although there is much that is important and interesting in a wider view of our subject, yet we are still compelled to keep our attention fixed on our first and nearest duty and remind you that Illinois has not yet obtained a state merit law. However, when we review the last four years, we find abundant cause for encouragement.

**Four Years Ago** at the annual meeting a speaker timidly addressed you on the need of reform in the civil service of Illinois, and hesitatingly said:

"I consider the subject at once the most important and the most puzzling which could come before any meeting of Illinois citizens at this time. What can be done? I confess I do not know. Neither party has managers who are willing, apparently, to consider these questions; party platforms are silent; men's clubs and organizations say nothing; the press says nothing."

At that time it was true that neither of the great political parties would notice the question of the State civil service and that the persons most interested in the reform dared not ask for a State law lest it provoke an attack on the Chicago law.

**Three Years Ago** in place of the timidity of a twelvemonth earlier, the Federation enthusiastically passed the following resolution:

"Resolved, that the Federation of Women's clubs urge that every effort possible be made to arouse public attention to the vital necessity of the entire separation of the public business of the State from the private interest of political parties, by the enactment and enforcement of an effective merit law, applicable, not only to the State Charitable and Correctional institutions, but to all departments of the public service."

**Two Years Ago** the Federation published and circulated **An Appeal for a State Merit Law**, which showed by a plain statement of indisputable facts how our State charitable institutions notably, the Insane Asylums, the Factory Inspection, and other State activities are injured by political control. This pamphlet was purchased in a large quantity and circulated

also by the Illinois State Civil Service Reform League. At about the same time the Illinois State Civil Service Reform League—a body of representative men throughout the State, was organized for the purpose of securing a State Merit Law. Its work has been courageous, patient and untiring.

**One Year Ago** your Committee's Third Annual Report was made and circulated by the Federation, and also by the Illinois State Civil Service Reform League.

**Now** we find that in 1904 no political party platform in Illinois ignores the popular demand for a merit law and for improvement in administering the State institutions.

We find the representative press unanimous in urging this reform. We find the Illinois Civil Service Reform League powerfully organized to ascertain facts, and to bring the matter before the public and before the legislature. We find both candidates for Governor publicly committed to the reform.

Perhaps no more convincing indication of the general recognition of the importance of the reform are asking could be found than is shown in an editorial which appeared September 17, 1904, in the Journal of the American Medical Association, entitled, "**State Supervision of Public and Private Care of the Insane.**"

We quote it below, because:—

1. It is from a national standpoint and shows how general is the problem with which Illinois is struggling, and thus enables us to realize that whatever we can do toward its solution will not only serve the helpless wards of Illinois, but of the whole country as well.

2. While this article considers only the insane, yet all that can be said of the importance of divorcing their care from politics applies equally to the care of every feeble or wayward son or daughter of the State.

3. This editorial shows us what the attitude of the best medical minds must be toward this question—a most important point for the laity to understand.

"The largest single enterprise in which the individual states in our country engage is the care of the insane. The State of New York has an insane population of 23,000, cared for at an annual expense to the state of \$5,000,000, and, although many states have a smaller number in proportion to their inhabitants, others have a still greater. California, for instance, has 6,000 insane—a number larger in proportion to her population than any other state.

Everyone must have observed that there is at the present time a distinct renewal of public interest in this function of the state, a decided tendency to question the methods usually employed. Public care of the insane is managed in several different ways. California and New York, for instance, maintain all their public wards in state institutions; Wisconsin has a unique system of state subsidy to county asylums, while Illinois and most of the states divide their insane between state asylums and county poor-houses, the latter being theoretically for the chronic cases, although practically this is far from the rule. It may be safely stated that the tendency is toward exclusive



state care, as the state asylums are superior in equipment and in medical care, and the method is comparatively simple and compact. Adequate supervision over county institutions is difficult, if not impossible. The question, however, is far from being solved by so simple an expedient as a change from county to state asylums. It is clear that a malady which entails on its victims the double disabilities inflicted by insanity—mental and material helplessness—requires special safeguards, and consequently there has grown up everywhere a system more or less effective of public supervision of the care of the insane.

Scotland is frequently pointed out as the country which has the most completely organized method of supervision—a method which for elasticity and effectiveness is unexcelled. The Scotch system culminates in the Board of Lunacy Commissioners, consisting of five men, two unpaid and three salaried, the latter being physicians who hold their office during good behavior until the age of retirement at sixty-two.

Every insane person in Scotland is under the care and protection of this board, whether in a public or private institution, whether placed in a private family at state expense, or living with his own relatives. The board has various deputies who act as visitors, but a large amount of personal supervision and medical examination is expected of the members themselves, as well as the usual supervisory and advisory duties which are ascribed by law to the State Boards of Charities in this country.

Without going into the details of the Scotch system, it can be seen that there is no wide difference between it and the one frequently employed in the United States, and, indeed, at the time it was adopted there is reason to believe that the framers of it received certain suggestions from our methods. At that time, in the middle of the last century, the public care of the insane was a matter of much concern, and many asylums were building in our eastern states, which attracted visits from persons from abroad, men interested in learning American methods. Yet now, while Scotland boasts an almost entirely satisfactory system, our own country is conscious of a growing dissatisfaction, not only in the condition of many individual asylums, but in the whole method of management; a dissatisfaction which expresses itself in more or less vague efforts at reform, in substituting administrative boards for supervisory bodies, boards of control for boards of charities. We are not interested at this moment in judging between the relative merits of these different plans; to our minds the root of the vague distrust so generally felt in this country lies far deeper and can never be eradicated by superficial reforms.

Bluntly speaking, the State political organizations of both parties have laid hold of the State institutions for the insane, and have used the appointments and appropriations for party ends, more or less extensively. In some states this exploitation has not been necessary for party success, and the institutions have perhaps suffered little from it, but in others it has

assumed the proportions of a plague. Occasionally the institutions have been rescued by determined individual effort, as when the lamented Governor Mount of Indiana, by his personal will, pulled the asylums out of the hands of the politicians; but Indiana herself is a melancholy proof of the evanescent nature of a purely personal reform, since his successor has by no means shown the same spirit.

Illinois, whose institutions were once the pride of the Middle West, has become the most conspicuous instance of the ruin wrought by political interference in public affairs which should be subject to physicians and humanitarians alone. A recent series of editorials in the Illinois State Medical Journal has shown with indisputable clearness the fall of Illinois institutions, and the continued loss to the state of the most eminent men connected with them.

Perhaps no crueller sacrifice has been demanded by the political Moloch than that of Dr. Runge, superintendent of the St. Louis City Hospital. Although his scientific and humane management had given him a national reputation, he was compelled to resign a few months ago, and his untimely death from pneumonia, which followed almost immediately, is believed to be in part attributable to the mental strain entailed by his heroic but futile struggle against the politicians.

We may as well face the truth that there is a deep-seated evil which can not be eradicated by such superficial remedies as changing the form or the name of the power of boards, nor even by the mere passing of a merit law. The efforts of the profession and of the public must be permanently enlisted in demanding genuine devotion and expert ability in those who compose these boards.

Above all the appointments in the asylums must be made on the basis of merit, with the permanency which is found in similar positions abroad, and which is the *sine qua non* of good service. These conditions the public must understand, and these limitations the politicians must respect if the care of the insane in America is to keep pace with the general advance of humanitarian effort."

Have we not shown enough growth in public opinion to encourage us? While this change is attributed to no one agency, but chiefly to the stern logic of events, yet may we not hope that our efforts have not been wholly useless, and do we not find ground for pressing steadily on?

Again let us remind ourselves that we are in honor bound to work for a State Merit Law because we have been instrumental for a dozen years in securing humanitarian laws and institutions which become a cruelty to their beneficiaries and a reproach to us unless they are administered in the spirit of a noble citizenship.

And finally we are bound to work for a State Merit Law, because all the interests and activities of a great State are at the bottom one in purpose,—to secure the welfare and happiness of its citizens. There is not anywhere a needle's point of room for political intrigue and exploitation in the edifice of the good State. As was said above, "the mere passing of a Merit law"

is not enough, yet since we shall have in it an expression of the public will, and a higher standard of public conscience, to labor for it is certainly our immediate duty.

Respectfully submitted,  
Henriette G. Frank, Chairman.  
Mrs. Wm. S. Mack,  
Mrs. Claribel Schmitt,  
Mrs. Luther M. Flagg,  
Mrs. Julia M. Dunn,  
Mrs. Clara P. Bourland,  
Mrs. E. S. Johnson,  
Mrs. Mary I. Rexford,  
Mrs. S. M. Bickford,  
Julia C. Lathrop, Secretary.

#### HONOR MEMORY OF DR. DAVIS.

**Bishop Spalding Proposes a Memorial Meeting in Powers' Theater, to Be Held Annually.**

At the service in memory of the late Dr. Nathan Smith Davis in Powers' theater Sunday afternoon, Oct. 23, it was proposed that the meetings be held annually under the auspices of the Chicago medical societies. The suggestion was made by Bishop Spalding of Peoria.

The theater was filled when Dr. J. B. Murphy called the meeting to order.

The Grace Methodist Episcopal church choir sang and Bishop Merrill offered the invocation. Dr. Frank Billings delivered a eulogy and Bishop Merrill said Dr. Davis was the great pioneer missionary physician of Illinois and the west.

Bishop Spalding spoke in part as follows:

"Dr. Davis laid the foundation of Mercy hospital. His vigorous mind and noble character taught him that prejudice is ignorance or imbecility, and that where suffering is to be relieved, where good is to be done, all except the blind or the perverse are drawn together to help and to cheer. When the Chicago Medical college was founded its more exacting requirements for admission and graduation could not but win the sympathy and approval of Dr. Davis, and, heedless of the loss and sacrifice, he resigned his chair at Rush to take one in the new institution, where he remained during forty years.

"Dr. Davis was one of the founders of the Northwestern university, the Chicago Academy of Science, the Chicago Historical society, the Illinois State Microscopical society, the Union College of Law, and the Washingtonian home."

#### MUST PAY FOR "SUGAR" PILLS.

**Illinois Farmers Lose Case Against Chicago Medical Concern.**

Bloomington, Oct. 23.—Much interest was taken throughout central Illinois this week in a case in Moultrie county, taken on a change of venue from Shelby. A decision was handed down by Judge Johns, which, if it stands the tests of the upper courts, will result in nearly 200 patrons of a Chicago medical institution that operated in central Illinois being compelled to pay for services rendered. The judge dissolved an injunction granted by Judge Ames in

Shelby county restraining the Illinois State Medical and Surgical institute from disposing of \$25,000 worth of promissory notes, said to have been given in payment for professional services. W. H. Truitt, a banker of Findlay, Ill., was made a party defendant in the suit, owing to the fact that he had purchased many of the notes.

The case is unique in that the complainants numbered 194 and claimed in their petition that they had been deceived with sugar pills. They asked the court to declare the notes given by them to the defendants to be null and void.

After the victory of the institute in the lower courts, through Judge Johns' decision, an appeal was taken to the appellate court, bond being furnished in the sum of \$5,000.

### Marriages and Deaths.

#### MARRIAGES.

Carlton S. Myers, M. D., to Miss Blanche Irwin, both of Chicago, Oct. 10.

William C. Spangenberg, M. D., and Miss Clara Adams, both of Chicago, September 15.

Charles Whittier Young, M. D., Chicago and Miss Olive Doyle, at Baltimore, September 15.

John Franklin Snyder, M. D., Monroe Center, Ill., to Miss Vernie Blanche Sheaff of Holcomb, Ill., September 21.

Frank A. Metcalf, M. D., to Miss Rebecca L. Day, both of Chicago, September 21.

Shepherd A. Ware, M. D., to Miss Clarice Duncan both of Springfield, Ill., August 15.

Francis D. Fletcher, M. D., Chatham, to Miss Leona A. Nuckolls of Auburn, Oct. 29.

Dr. Robert S. McCaughey of Hoopeston and Miss Josephine Culbertson, daughter of Dr. and Mrs. S. D. Culbertson, of Piper City, Oct. 20.

Mrs. McCaughey was born and raised in Piper City, where she was deservedly popular. She and her husband were classmates at Monmouth College. After a trip to Denver and St. Louis, they will be at home in Hoopeston.

Dr. J. F. Crowley, of La Salle, and Miss Margaret Henslee, of 4016 Michigan ave., Chicago, Oct. 19. They will journey to St. Louis and the eastern cities and return to La Salle Dec. 1.

White, Dr. W. J., formerly house surgeon at the Wabash Hospital, Springfield, now of Ashley, Ind., and Miss Marjorie Barker, of Springfield, Sept. 21.

McClanahan, A. C., M. D., Chicago to Miss Lorry Fox of Portland, Ore., August 24.

Shallenberger, F. E., M. D., Canton, to Miss Kathryn Elsenfast of Peoria, August 17.

Wright, J. A., M. D., and Miss Nellie Thompson both of Fair Haven, Ill., at Clinton, Iowa; August 24.

Young, J. G., M. D., and Miss Mae Wells, both of Hickory Grove, Ill., at Keokuk, Iowa, August 31.

Allen, Wm. Gray, M. D., Chicago to Miss Amelia Harrison Arundale, at Bradford, Ill., Sept. 7.

Drosdowitz, Theo., M. D., Chicago to Miss Belle D. Hurwitz of New York at St. Louis, Mo., Sept. 5.



Mabry, W. C., M. D., Ft. Sheridan, Ill., to Miss Bessie Mayne of Salt Lake City, Utah, Sept. 7.

Cupler, R. C., M. D., and Mrs. Isabella Larkin, both of Chicago, September 1.

Brookshire, M. L., M. D., Graymount, Ill., to Miss Josephine Beier of Weldon, Ill., Sept. 7.

Claude F. Schrouds, M. D., of the Kankakee Eastern Hospital staff was married to Miss Jeanette Foster of Chicago, Sept. 14.

Samuel Burke, M. D., and Miss Mabel Signor, both of Chicago, October 1.

Arthur Newton Davis, M. D., formerly of Chicago, now of Berlin, Germany was married on Aug. 29th to Miss Helen Winnifred Proctor, 3238 Groveland ave., Chicago. The ceremony was in St. George's, Hanover Square, London, England.

Stephen Tyler Parsons, M. D., of Chicago was married to Miss Rachel Hutchinson at the Church of the Epiphany. The ceremony was performed at high noon by the Rev. John Henry Hopkins.

Ethan Allen Gray, M. D., of Chicago, was married to Miss Elsie Marie Baumann of 43 Pine Grove ave., Chicago. The ceremony was performed at the Church of Our Savior.

S. A. Ware, M. D., (colored) of Springfield, was married to Miss Clarice Duncan of Springfield, August 15. The marriage was only recently announced.

#### DEATHS.

Dr. C. M. Bowcock of Springfield has returned from Clarksburg, W. Va., where he went August 30, to attend the funeral of his father, Dr. James M. Bowcock of that place. Dr. Bowcock, Sr., had practiced medicine in Clarksburg since 1856, being graduated from Jefferson of Philadelphia in 1850. During the civil war he was a staunch union man and established the first hospital in that section when he was acting as contract surgeon in the government service. Dr. Bowcock had visited his son in Springfield and was well known to many physicians of this state who will regret to learn of his death.

**Dr. Wm. B. Rehling Ruch**, Alhambra, died at the home of his mother in Waterloo, Iowa, July 28, aged 20 years.

**Dr. Anna M. Shattock**, died Aug. 18, at the home of her daughter, Dr. Helen Parker, in Marshall, Mich., aged 72 years.

**Follett, Orville, M. D.**, died at his home in Normal, Ill., August 12, aged 88 years.

**Grey, Margaret, M. D.**, died in Chicago, Aug. 11, from injuries sustained in a fall last February.

**Hayton, James, M. D.**, died at his home in Carbondale, Aug. 7, aged 88 years.

**Bernard, Henry C., M. D.**, a graduate of 1866 from the Medical Department, University of Keokuk, Iowa, and surgeon during the Civil War, died at his home in Charleston, August 10, aged 68 years.

**Balsbaugh, Geo. S., M. D.**, after a long illness, died at his home in Forreston, Ill., Aug. 26, aged 75 years.

**Baker, C. M.**, for many years practitioner and twice mayor of Henry, Ill., died at the Illinois Western Hospital for the Insane, Water-

town, of which he had been an inmate for several years, September 3, aged 82 years.

**Ough, R. J., M. D.**, Supreme Physician of the United Order of Foresters, died at his home in Chicago, September 11, aged 65 years.

**Green, W. D.**, died at his home, recently, in Mt. Vernon, Ill.

**Colvin, Wm. H.**, died at his home in Chicago, July 6, from Pneumonia, aged 34 years.

**Dr. Levi Westfall Elliott**, died Aug. 24, aged 69 years.

**Dr. Chas. L. Enslee**, died Aug. 23 at his residence, 2029 Kenmore ave., Chicago.

**Catlin, E. P., M. D.**, Rockford, Sept. 28, aged 65. Dr. Catlin was the second oldest practitioner in Winnebago County. He was graduated from Rush in 1875, and formerly practiced in Manteno, Kankakee County.

**Catlin, Edward P., M. D.**, Rush Medical College, Chicago, 1865, assistant surgeon of the 152d Illinois Volunteer Infantry in the Civil War; for many years a member of the Winnebago County Medical Society, which gave a banquet in his honor on Feb. 10, 1903, died from Bright's Disease at his home in Rockford, Ill., Sept. 26, aged 67.

**Columbus H. Felts, M. D.**, Illinois, 1883, died at his home in Clark Center, Ill., in August.

**J. E. Waters, M. D.**, Illinois 1877, died suddenly at his home in Athensville, Ill., July 30, aged 76.

**Allen M. Pierce, M. D.**, Rush Medical College, Chicago, 1861, an Army surgeon during the civil war, died at his home in Wyoming, Ill., June 10.

**Andrew D. Finucane, M. D.**, Bellevue Hospital Medical College, New York City, 1884, Chicago, died at the Illinois Northern Hospital for the Insane, Elgin, Aug. 16.

**Samuel S. Strayer, M. D.**, Chicago Medical College, 1872, died at his home in Naperville, August 18.

**Edgar E. Carr**, Augusta, Oct. 11, aged 40. He was found dead in bed and it is supposed that he died of heart disease as he had been in ill-health for some time. Dr. Carr was well known in Macon County where he had practiced medicine for a number of years.

The Moline Public Hospital was opened in September 1898. Judge J. M. Gould, who framed the bill passed in 1891, providing for the erection and maintenance of city public hospitals, and the physicians of the city were very active in having it built. As the state law provides it is maintained by a two mill tax, managed by a board of three members chosen by the mayor and all reputable physicians in the city are members of the staff. The present board members have served for several years and are Messrs. G. A. Stephens, Wm. Butterworth and W. C. Macbeth.

The nurses training school is under the supervision of a woman's board called the Woman's Hospital Ass'n. of which Mrs. J. H. McKeever has been president and an active worker since its organization. Miss Marie Watson, a graduate of the Illinois Training School, is head nurse. The term of the nurses training is two years and two months, the extra



two months being devoted to District Nursing work.

The officers of the hospital staff are Pres. Dr. A. H. Arp, Vice-Pres. Dr. E. Sargent, Sec. & Treas. Dr. Martha Anderson.

The staff of lecturers to the nurses are chosen by the hospital board and are as follows:

Anatomy, Dr. A. R. Beal; Physiology, A. D. West; Materia Medica, F. H. Gardner; Medicine, J. M. Wyland; Gynecology, A. H. Arp; Bacteriology, H. D. Bennett; Surgery, L. D. Dunn; Obstetrics, A. M. Beal; Diseases of Children, Martha Anderson; Eye, Ear, Nose and Throat, M. L. Huntington; Dietetics, Mrs. Kate M. Gleason.

Dr. L. D. Dunn entertained the members of the Moline City Hospital staff in their regular meeting at his house Tuesday evening, Sept. 6. The routine business of the staff over, Dr. Dunn read a paper on "Treatment of Compound Frac-

## New Incorporations.

The Secretary of State has incorporated the Herzog Rheumatic Cure company, Chicago; capital \$2,500; manufacturing proprietary medicines; incorporators, Ripley N. Baylies, Oscar G. Gaylies and Frank Kellersman.

The Secretary of State has incorporated the Tar Remedy company, Chicago; capital \$2,500; manufacturing medical and toilet preparations; incorporators Leonard Simons, Nicholas Bristow and Harry Simmons.

The Secretary of State at Springfield licensed the following corporations:

Pilgrim Remedy company, Chicago; capital, \$2,500; manufacturing medicines; incorporators,



MOLINE PUBLIC HOSPITAL.

ture of the Skull," and then called upon Dr. T. J. Lamping to report a case upon which he had assisted Dr. Dunn in operation. The paper was an exceedingly interesting one and touched upon first aid service to be rendered in these cases, the instruments necessary for the operation, the technique of the operation itself, the after treatment and the remote effects of the injury. The paper report of the case brought forth considerable discussion by different members present.

After the meeting adjourned Mrs. Dunn invited those present to the dining room where she and Miss Dunn served light refreshments and a very enjoyable half hour was spent.

Dr. J. F. Miller, of Palmer, has located in Taylorville. Dr. C. M. Seaton, of Zenobia, has purchased the property of Dr. Miller and located in Palmer.

T. N. Ellings, A. C. Anderson and A. W. Adamick.

Ozintol company, Chicago; capital, \$10,000; manufacturing medical preparations; incorporators, Seymour Walton, Charles L. Brown and Walter H. Harrison.

Oak Park Hospital association, Oak Park; maintain a hospital and training school for nurses; William Spooner, Nathaniel M. Jones, Carlos J. Ward.

New Thought Publishing company, Chicago; capital, \$2,500; printing and publishing; incorporators, A. S. Doud, John Mullhall, Charles B. Lehan.

Dr. Jacob Frank of 100 State st., Chicago, has returned from Europe and resumed practice.

Dr. Hill, of Mechanicsburg, has taken a five weeks' post graduate course in Chicago.

## County and District Societies.

### PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 77.

#### Officers.

President ..... L. A. McFadden  
First Vice President ..... J. C. Roberts  
Second Vice President ..... B. M. Stephenson  
Treasurer ..... Jeanette Wallace  
Secretary ..... S. M. Miller  
Censors: E. M. Sutton, one year; A. J. Kanne, two years; F. B. Lucas, three years.

The Peoria City Medical Society convened September 20, in the Observatory building at 8 P. M., Dr. J. C. Roberts in the chair.

Dr. P. H. Keller of Chillicothe was admitted to membership in the Society.

Dr. A. B. Kanavel of Chicago read a paper on **Infections of the hand,, Tendo-Vaginitis, fascial space infection, and cellulitis and lymphangitis**, discussing the relation of the anatomy to the limitation and to the spread of infection, and the bearing of anatomical peculiarities on diagnosis and treatment. A new pathogeny for felon was suggested: viz. Felon is a cellulitis—not a periostitis of the distal phalanx. Radical and intelligent operative treatment of infectious under continuous nitrous oxide anaesthesia was urged. The proper points for opening tendon—sheaths and fascial spaces—was demonstrated by dissections that had been injected with plaster of Paris and by X-Ray plates.

The Peoria City Medical Society met in the Observatory building, October 4, at 8 P. M. Dr. J. C. Roberts presiding. As this was the annual meeting, the reports of the officers for the year were heard and audited.

Dr. Jeanette Wallace read a paper on **preventive gynaecology**, which will appear in this Journal.

### PREVENTIVE GYNEOLOGY.

By Dr. Jeanette Currie Wallace, Peoria, Illinois.

Proper supervision of girls at the time of puberty and during the age of development is a great step toward preventive gynecology. The health of the future generation will depend largely on the health of the girl of to-day.

There is a nervous influence in this strenuous age felt by all, from the increased activity, in the social, business and political world, so there is an increasing demand on the growing girl. Although she does not enter into the responsibilities of life, the strain in this nervous atmosphere will leave its impression on her unstable system.

The majority of girls at the age of puberty are in the last year of the grammar school or just entering the high school. Here we often find a suggestion of tuberculosis, chlorosis and anaemia, or one who is nervous, excitable, with an irregular and rapid pulse, constipated and

with a poor appetite. In the majority of girls menstrual disturbances begin at this time.

Mary Putnam Jacobin<sup>1</sup> has long claimed, that from observations of the parturient involution is parallel to that of the menstrual period, and from her clinical observations the non-infectious uterine disease does not date from a confinement; but from some aberration of menstruation. Much harm done during this period can never be remedied.

A careless management of this function at any period of life, during its existence, is apt to be followed by consequences that may be serious; but a neglect of it during the epoch of development, that is, from the age of fourteen to twenty, not only produces great evil at the time of neglect, but leaves a large legacy to the future<sup>2</sup>.

Improper development is an important factor in uterine displacements, and is followed by a long chain of disturbances, as dysmenorrhea, amenorrhea, sterility and many others. The causes are as numerous as the diseases they produce; as errors in diet, the want of fresh air, improper clothing, want of exercise, overwork in school, and strain under the modern mode of living.

Dr. Jane Kelly Sabine<sup>3</sup>, of Boston, after examining 2,000 girls in New England, reports as follows: 75% were found with irregularities dating from puberty; 60% had to give up work from one-half to two days each month, and 90% had leucorrhoea.

Menstrual disturbances are not confined to one class of girls. They are found in all classes; in the poor and ignorant, the middle class, and are even more prevalent in the more intelligent and well-to-do.

A New York firm advertised for a large number of able-bodied women between the age of sixteen and twenty.

There were two hundred and fifty applicants. Among this number fifteen were thought worth considering; ten were selected<sup>4</sup>.

Who is to blame if the girl has lost her health by the time she reaches womanhood?

Much blame has been attached to the present school system. The course is too crowded, especially in the high school; too long study hours, and not enough out-door exercise.

In California the legislature has prohibited home study. A test was made and found that the no-home study classes did superior work to the classes in which home-study was kept up<sup>5</sup>.

It has been observed by those who have made investigations that chronic disorders are more frequent among children whose instructions extend over the whole day, than those who go only in the morning. The strain falls on the weak girl, from day after day of cramming, memorizing, to complete the required



work, and perhaps with the ambition to stand at the head of the class, or to make two grades in one. At the end of the year her strength has been taxed to its utmost, and we have an unequal development. The brain is developed at the expense of the body. The blood which should go to the uterus is utilized by the brain and an undeveloped uterus is the result.

It is said that when Lady Amberly visited the public schools in Boston she said: "I never before saw so many pretty girls together," and then added "they all looked sick."

Wylie, in the *New York World* says: "that the American horse, on an average, receives better treatment than the young woman of America from the time of early girlhood, until the age of development has passed.

The young horse is never forced during the period of development; while the American parents, especially of the middle classes, with great ambition for their children, and the desire that they should develop intellectually beyond their own standard, allow their heads to be crammed with knowledge so rapidly that the brain cannot assimilate it, and the result is, that all the strength of development is devoted to the brain and the physique finds expansion as best it can."

Music is so often added to school work, regardless of any talent or taste for it.

The present school system may be criticised, but I believe the Board of Education is usually composed of a body of conscientious men and women, who spend much time in planning the school work.

Most of the buildings are equipped with the best improvements, much attention has been given to the lighting, ventilation, heating, seating, temperature and gymnasiums are added for the physical training.

In many schools domestic science and manual training are added, which will give a broader and more practical education.

Social demands are more often a disturbing factor in the physical break-down of young women than school work.

A young miss of seventeen told me last winter, that during the holiday season, her social duties required her to attend five receptions in one afternoon, and a dance on the same evening. This was not only one day's program, but almost every day of the holiday season. It is needless to say that this young lady was all worn out when she returned to school, after the two weeks of dissipation and is a sufferer of dysmenorrhea.

Too much cannot be said against error in diet formed by school children. Some one has said: "We live in a zone of perpetual pie and doughnut." I should like to add—fudges and pickles.

A few years ago, there was a woman in this city who kept a small grocery store near one of the school buildings. She said the greater part of her income came from the sale of pickles to the school children during the recess.

One of the fads existing in the present

school girl is the insufficient clothing worn in the winter.

Last winter in a class of girls in one of our schools, one of the young ladies discovered that she was the only one in the class who wore a long-sleeve undervest.

She came home very indignant at her mother for allowing her to be so over-burdened with as much unnecessary clothing as a long-sleeve vest. These young misses are very persistent in this foolish fad, and I have heard them claim to be perfectly comfortable on the coldest days, when at the same time they were so cold and blue they could hardly talk.

How and who is going to adjust the claims which rightly belong to the growing girl?

Dr. Engelman<sup>6</sup> says: "The first step toward betterment is knowledge, a knowledge of woman's functional life, its conditions and requirements and understanding of its nature by physician, educator, the mother and the girl herself."

These patients are very unsatisfactory to treat. They come to us; we give them a prescription and perhaps we never see them again.

They need advice more than medicine. They need to be told the importance of care during this time.

Impress parents that the frail girl should be looked after until development has passed, but she need not be reminded every day of her frail condition.

She should be kept quiet the first two or three days of menstruation, until regular, healthy menstruation is established, and if necessary, keep her out of school a year or two. Education can come later when she is stronger and more able to grasp it, while a physician's efforts to overcome harm done during this period are fruitless.

If kept at home she need not be idle. Give her some systematic work with plenty of fresh air and exercise.

"Educate as highly as possible—the higher the better—providing no bodily injury is entailed. But to educate in such a manner, or to such an extent, as to produce physical degeneracy is to defeat the chief end for which the toil and cost and anxiety are submitted to."

How can the school question be adjusted? No set rule can be laid down for all pupils, nor can fifty or sixty pupils of different degrees of health be specialized.

It is not uncommon to find a weak body with a very bright mind, and it is a temptation to urge such a pupil for promotion.

The teacher has too much to do. She should have a fewer number of pupils so she could have time to notice the requirements and instability of the girl at this time.

How can a teacher, with fifty or sixty, give any attention to the physical conditions of her pupils, with all the other work which is demanded of her.

Dr. Christopher tested several thousand children in the Chicago schools with the ergograph. He found the endurance of boys and girls about the same until about nine years of



age, when the girls' endurance diminished somewhat in comparison to the boys'.

At fourteen the boys' endurance increased until about nineteen or twenty, while the girls' seemed to cease.

He also found a definite daily curve of endurance diminishing toward noon, and rising after the noon hour, and diminishing again toward night.

The schools in which cooking, home-making and manual training have been added, there has already been an improvement in the health of the pupils.

What is education? Is it not a knowledge to make the most out of life?

One of our educators has said: "How to live—that is the essential question for us. Not to live in the mere material sense only, but in the widest sense. The right ruling of conduct in all directions, under all circumstances; in what way to treat the body; in what way to treat the mind; in what way to manage our affairs; in what way to bring up a family; in what way to behave as a citizen; in what way to utilize all the sources of happiness which nature supplies—how to utilize all our faculties to the greatest advantage of ourselves and others—how to live completely? And this being the great thing needful for us to learn, is by consequence the great thing which education has to teach."

Physiology and hygiene should take a more prominent place in our schools; they have not had their share of attention. The university settlements and the associated charities are doing much in the poorer localities of our cities in teaching the poor classes the laws of health and sanitation, but in the public schools these branches have been somewhat neglected.

Often an entrance examination in the common branches, and sometimes in the languages is required to obtain positions, and sometimes a physical examination is required, but seldom are there any requirements in the knowledge of physiology and hygiene to engage in business or to obtain any position.

It seems that it has not been thought necessary that this strong physique sought for, should know how to keep strong and well, but they expect a strong body and a bright mind to do the work. Let the youths of our schools be instructed in the fundamental principles of physiology and hygiene and the sources of disease, and in a few years the municipal government of our cities would be an easy task; the water supply, sewerage, plumbing and drainage would be the best.

All cities would be provided with well equipped municipal city laboratories, where an early diagnosis of infectious diseases could be made, and the board of health would find it easier to deal with contagious diseases, and getting the people to comply with the ordinary rules of sanitation, and tuberculosis would be greatly lessened.

The board of health should be allowed to appoint medical inspectors for schools, one inspector being appointed for a certain number

of schools. This has been done with excellent results in many cities, especially in Chicago, Boston and Philadelphia. Boston was the first city to make these appointments. She appointed medical inspectors in 1894.

The inspectors make an examination of each child, and if any child needs attention he is referred to the family physician.

How often a child with tuberculosis is allowed to remain in school, until, through weakness, he is compelled to stay at home. Sometimes a teacher with the same disease is allowed to teach exposing from fifty to sixty pupils each day.

In some cities teachers are required to pass a physical examination before they can teach.

Aside from the teaching of physiology and hygiene, let the medical inspectors give the boys and girls separate lectures. It is a mistaken idea that a girl should know nothing of her pelvic organs. She should at least know enough as would be necessary for the self-preservation of health.

How many women and girls come to us with pelvic lesions, giving a history of dysmenorrhea that dates back to puberty, through ignorance of not having the proper care. If a girl gets her instruction in the right way, nothing but good will follow, and it will free her mind from a great amount of worry.

Often the most devoted mother will enlighten and advise her daughter on almost every subject, but will leave her in ignorance in regard to her womanhood, and this the girl must find out in the best way she can.

I believe that such negligence is criminal.

France is greatly agitated over her decrease in population, and it seems that she is doing more than any other country for the improvement in the health of her young.

America too is crying race suicide, and some people are trying to lay the blame on the higher education of women. If a woman has good health, after development, higher education will not hurt her. It is the stage of development that leaves its imprint on her after life.

America may well follow France's example in looking after her young, for certainly each succeeding generation is getting weaker, and with inherited physical sins and our own, under this long continued nervous pressure in which we live, it does look like there might be an extinction of the race.

Dr. Engelmann, of Boston, says: "The rate of child-birth has been decreasing in college families, but it has been decreasing throughout the civilized world, slowly in the old world, but with astonishing rapidity in the new, that is, among the native American born of our population, until it has reached a minimum; the number of children to the native-born American family of all classes (and in this lies the danger) being less than it is, in any other country, France not even excepted, which has long been known to be at the point of stagnation. The American population is not holding

its own; it is not reproducing itself, and the highly educated do not stand alone in this."

He further says: "Family shrinkage seems clearly referable to the strenuous nerve-racking life of the day, to the struggle, not for existence, but for luxurious existence, to the ever increasing desire for the luxuries of life, and for the morbid craving for social dissipation and advancement."

Before many years we may long for the old-fashioned girl of Louise Alcott, and a more simple way of living.

Medical science has now reached a higher state of perfection than it has ever before, with its rapid advancement in internal medicine and its improved technic in modern surgery. The world has never been so richly endowed with libraries and finely equipped laboratories, and there never has been so much research work as at the present time.

All these advancements we are proud of, but in the face of all this wonderful progress, there never was a time when so many young women are consulting gynecologists and are having to submit to operations as at the present.

If this is the age of prevention, ought not we as physicians, give more attention to the growing girl, during the period of development, and try to prevent some of the diseases, which we are now trying so hard to alleviate by the improved methods of modern surgery?

Some one has looked far ahead, after reaction has taken place, to a bright prospect: "In the distant generations, the homes shall be full of noble faces, because the laws of living shall be known to be obeyed, and sickness, if self-acquired, shall be a crime."

Then the school-girl needs an education that will give her a foundation of health on which to stand, so she may be capable to meet all the requirements that will be demanded of her.

Herbert Spenser says: "Instead of respecting the body and ignoring the mind, we now respect the mind and ignore the body. Both these attitudes are wrong. We do not yet sufficiently realize the truth that, as in this life of ours, the physical underlies the mental; the mental must not be developed at the expense of the physical. The ancient and modern conception must be combined. The fact is, that breaches of the laws of health are physical sins. When this is generally seen, then and not till then, will the physical training of the young receive all the attention it deserves."

#### Literature.

1. Jacobi: Menstrual Subinvolution. Amer. Jour. of Obstet. Sep. 1885.
2. Clark: Sex in Education.
3. Sabine: Paper read before Society for Medical Improvement, Sec. 16, 1901.
4. Kesley: Jour. A. M. A. June 9, 1904.
5. Jour. Amer. Medicine, April 20, 1901.
6. Engelman: The American Girl of to-day. Amer. Jour. of Obstet. Dec. 1900.
7. Engelman: Education not cause of Race Decline. Pop. Science Monthly, June, 1903.

#### VERMILION COUNTY MEDICAL SOCIETY.

Regular meetings are held the second Monday of each month in the city hall, Danville, at 8:30 p. m. Membership 71.

##### Officers.

President ..... Jos. Fairhall, Danville  
 Vice President ..... F. N. Cloyd, Westville  
 Sec'y and Treas. .... C. E. Wilkinson, Danville  
 Board of Censors: ... H. F. Becker, T. E. Walton,  
 W. A. Cochran.  
 Committee on Medical Practice Act: E. E. Clark, S.  
 L. Landauer, S. C. Glidden.

On Program: H. F. Becker, H. W. Morehouse.

##### MEMBERS.

Babcock, H. S., Danville; Barton, F. W., Danville; Becker, H. F., Danville; Black, S. M., Georgetown; Brown, W. J., Danville; Brown, R. A., Humrick; Butz, J. E. P., Potomac; Chaffee, J. A., Danville; Clark, E. E., Danville; Clinch, J. H. M., Danville; Cloyd, F. N., Westville; Cloyd, R. A., Catlin; Cochran, W. A., Danville; Coolley, E. B., Danville; Cossairt, W. S., Potomac; Current, Effie, Danville; Fairhall, Joseph, Danville; Fox, A. L., Danville; Finley, J. L., Collison; Fithian, P. H., Fithian; Fisher, J. G., Catlin; French, G. M., Danville; French T. P., Danville; Gillette, R. W., Danville; Gleeson, Benjamin, Danville; Glidden, S. C., Danville; Guy, J. M., Danville; Hardman, E. L., Allerton; Hughes, G. W., Armstrong; Huston, I. E., Danville; Ingles, J. A., Hoopeston; Johnson, A. G., Sidell; Johnston, E. A., Danville; Jones, Solomon, Danville; Jones, S. W., Danville; Jones, Leroy, Hoopeston; Kingsley, V. C. T., Danville; Landauer, S. L., Danville; Leavitt, Clark, Danville; Leitzbach, A. J., Fairmount; Lottmann, W. A., Oakwood; Mason, F. M., Rossville; Michael, O. W., Muncie; Miller, A. M., Danville; Moore, Samuel, Danville; Morehouse, H. W., Danville; Morton, J. B., Ridge Farm; O'Haver, J. W., Danville; Paul, W. H., Danville; Poland, B. I., Danville; Ray, D. V., Jamesburg; Rothgeb, H. D., East Lynn; Sims, S. N., Danville; Smith, E. M., Georgetown; Taylor, Buford, Westville; Walton, T. E., Danville; Wilkinson, C. E., Danville; Williamson, G. L., Danville; Saunders, F. E., Perrysville, Indiana; Regan, Theo., State Line, Indiana; Wilkins, J. M., Fairmount; Worthington, R. R., Indianola.

The society held its regular monthly meeting in the Council Chamber, Monday evening, September 12, 1904, President Joseph Fairhall, in the chair.

The minutes of the June meeting were read and adopted.

The Board of Censors reported favorably on the name of Dr. J. R. Colliers for membership and he was elected to membership.

The committee on program made a report of their work which was accepted by the society and the committee discharged.

The following names were proposed for membership, Dr. James Darrah, of Cayuga, Ind., Dr. Saunders of Georgetown, Ill., and Dr. Robert McCaughy of Hoopeston, Ill., and referred to the Board of Censors.

The president appointed a committee consisting of H. F. Becker and C. E. Wilkinson to prepare new Constitution and by-laws and report same at the October meeting.



The paper on **Scarlet Fever**, by J. G. Fisher, M. D., was very ably presented and a good discussion followed. Dr. T. E. Walton in the discussion stated that he had given salicylic acid as a preventative of **Scarlet Fever** with satisfactory results.

Dr. P. H. Fithian who was on the program for a paper on **Typhoid Fever** was not present so Dr. Leavitt who was to open the discussion presented the subject in a very able manner and an interesting discussion followed.

Members present: J. G. Fisher, H. F. Becker, A. J. Leitzbach, C. Leavitt, E. M. Smith, Joseph Fairhall, F. W. Barton, I. E. Huston, A. M. Miller, J. M. Wilkins, T. E. Walton, S. M. Black, and C. E. Wilkinson.

The society adjourned to meet the second Monday evening in October.

The program for the remainder of the year follows:

#### November 14, 1904.

**Chronic Pneumonia**, S. L. Landauer.

Discussion opened by T. E. Walton, followed by J. A. Ingles and E. L. Hardman.

**Broncho Pneumonia**, A. Merrill Miller.

Discussion opened by R. A. Cloyd, followed by J. W. O'Haver and G. M. French.

Report of cases.

Election of officers.

#### December 12, 1904.

**Railroad Injuries, Peculiarities and Treatment**, F. W. Barton.

Discussion opened by H. W. Morehouse, followed by R. W. Gillette.

**Mine Injuries, Interesting Points in**, F. N. Cloyd.

Discussion opened by Buford Taylor, followed by J. M. Guy.

Report of cases.

#### January 9, 1905.

**Preventive Medicine**, F. M. Mason.

Discussion opened by H. F. Becker, followed by J. M. Wilkins.

**Medical Legislation**, Dr. Joseph Fairhall.

Discussion opened by A. L. Fox, followed by R. R. Worthington.

Report of cases.

#### February 13, 1905.

**The Application and Results of Electricity in Malignant Disease**, A. L. Fox.

Discussion opened by S. C. Glidden, followed by S. W. Jones and V. C. T. Kingsley.

**Relation of Iritis to Systemic Diseases and its Diagnosis and Treatment**, Benj. Gleeson.

Discussion opened by B. I. Poland, followed by I. E. Huston.

Report of cases.

#### March 13, 1905.

**The Relation of Heart and Kidneys in Disease**, C. E. Wilkinson.

Discussion opened by F. M. Mason, followed by J. L. Finley.

**The Treatment of Nephritis**, Leroy Jones.

Discussion opened by R. A. Brown, followed by J. H. M. Clinch and G. W. Hughes.

Report of cases.

April 10, 1905.

**The Indications and Contra-Indications for Operation in Mastoid Disease**, E. E. Clark.

Discussion opened by Benj. Gleeson, followed by H. D. Rotgeb.

**Appendicitis**, W. A. Cochran.

Discussion opened by G. L. Williamson, followed by C. E. Wilkinson.

Report of cases.

May 8, 1905.

**Syphilis**, T. E. Walton.

Discussion opened by E. M. Smith, followed by T. P. French.

**Gonorrhoea**, W. J. Brown.

Discussion opened by H. S. Babcock, followed by Samuel Moore.

Report of cases.

June 12, 1905.

**Summer Diarrhoeas in Children**, E. B. Cooley.

**Cerebro-Spinal Meningitis**, S. M. Black.

Discussion opened by W. A. Lottmann, followed by S. N. Sims and D. V. Ray.

Discussion opened by W. H. Paul, followed by J. B. Morton and A. G. Johnson.

Report of cases.

The regular October monthly meeting of the V. C. M. A. was called to order by the president at 8:30 P. M.

The minutes of the September meeting was read by Dr. H. F. Becker, Secretary pro tem, and approved as read.

The chairman of the board of censors reported favorably on the names of Dr. James Darrah, of Cayuga, Ind., Dr. Saunders of Georgetown, Ill., and Dr. Robert McCaughey of Hoopeston, Ill., and upon a motion they were duly elected members of the association.

The committee on Constitution and By-Laws made a report—and on motion by Dr. Guy the report was laid over for discussion at the next regular meeting.

The names of J. B. Hundley and M. Sahud of Danville and L. W. Reid of Fairmount were proposed for membership and referred to the board of censors.

A communication from the secretary of the State Board of Health, J. A. Egan, concerning the laboratory established for the purpose of bacteriological research was read and placed on file.

The paper on the management of labor by Dr. J. M. Guy met the expectation of the Society by its very able presentation. On account of the absence of the members on the program to open the discussion, the President appointed Dr. Cooley to open the discussion and was followed by Dr. F. N. Cloyd and Dr. Leitzbach—quite an interest was manifested and the discussion became general.

Members present: Drs. Joseph Fairhall, H. F. Becker, F. N. Cloyd, R. A. Cloyd, E. B. Cooley, A. J. Leitzbach, H. S. Babcock, J. M. Guy, F. W. Barton, J. G. Fisher, Solomon Jones, J. M. Wilkins, D. V. Ray, and V. C. T. Kingsley.

Meeting adjourned to meet the second Monday evening in November.



**SANGAMON COUNTY MEDICAL SOCIETY.**

Regular meetings are held at the Lincoln Memorial Library in Springfield the second Monday of each month at 8 p. m. Membership 75.

**Officers.**

President ..... B. B. Griffith, Springfield  
 Vice President ..... S. E. Munson, Springfield  
 Secretary-Treasurer ..... C. P. Colby, Springfield  
 Directors, W. O. Langdon, R. D. Berry, C. R. Spicer

The Society held its regular monthly meeting Monday evening, October 10th, in the new Library building. Meeting called to order at 8:30 P. M. by President Griffith. There were twenty members and three visitors present. Minutes of last meeting read and approved. Bills of \$2.75 read and ordered paid. Drs. T. L. Perkins, Gordon W. Rice, Maurice Altman and O. H. Deichmann were elected to membership. The applications for membership of Dr. Metcalf of Springfield and Dr. McIntosh of Pleasant Plains were read and referred to the board of directors. Dr. James L. Lowrie of Lincoln was the essayist of the evening, his subject being **Typhoid Fever**. In the discussion which followed special stress was given to the modes of treatment. Dr. Kreider presented gall stone specimens from twenty cases. Dr. Nelson read a letter from Dr. Egan giving the requirements of the post office department when sending specimens through the mail.

A vote of thanks was extended to Dr. Lowrie for his very interesting paper.

Motion to adjourn was carried.

The Society decided to give a banquet on the occasion of the annual meeting November 14. President W. E. Quine of Chicago, of the State Medical Society will be present and deliver an address on the morals of the medical profession.

**FULTON COUNTY MEDICAL SOCIETY.**

Regular meetings are held the first Tuesday of May, July, October and December.

Membership 43.

**Officers.**

President, J. W. Conelly.....Farmington  
 First Vice-President, S. A. Oren.....Lewistown  
 Second Vice-Pres't, G. R. Blackstone.....Table Grove  
 Secretary-Treasurer, D. S. Ray.....Cuba  
 Necrologist, F. R. Miller.....Canton  
 Board of Censors, Maud T. Rogers.....Cuba

The seventh annual meeting of the Fulton County Medical Society was held in the parlors of the Canton Public Hospital, Oct. 4, 1904. Meeting was called to order by Pres. Scholes at 10:40 A. M. Sec. Ray was absent and Dr. Roberts was appointed Sec. pro tem.

Dr. Blackstone presented a paper on **Infant feeding**.

Discussion by Drs. Stoops, Blackburn and Chapin.

After banquet a motion was made that we proceed to business meeting. Carried. Minutes of last annual meeting was read and approved. The above officers were elected.

The retiring President Dr. Scholes was selected delegate to the State meeting.

Report of Membership Committee recommending the applications of Drs. McLarin of Ipava, V. C. Murphy of Cuba and Robt. Ewan of Smithfield was accepted and applicants duly elected to membership.

Secretary's report showing a balance of \$38.75 was read and accepted.

Communication from State Board of Health was read.

By-laws was amended making Canton the permanent meeting place of the society.

Bill of E. A. Powers for \$1.75 for printing was allowed and ordered paid. Bill of C. A. Philips for \$3.00 was allowed and ordered paid.

Moved that a vote of thanks be extended to the ladies and others who made the banquet a success. Carried.

Members present: Roberts, Scholes, Blackburn, Stoops, Regan, Chapin, Hayes, McLarin, Blackstone, Adams, Harrison, Murphy, Ewan, Bowman, Coleman, Rogers and Oren.

**EFFINGHAM COUNTY MEDICAL SOCIETY.**

Regular meetings held on the 2d Tuesday of each month in Commercial Club rooms at Effingham. Membership —

**Officers.**

President, Dr. J. B. Walker.....Effingham  
 1st Vice-President, Dr. J. N. Matthews.....Mason  
 2d Vice-President, Dr. S. Clark.....Effingham  
 Secretary, Dr. W. L. Goodell.....Effingham  
 Treasurer, Dr. F. W. Goodell.....Effingham

The Society met in regular session at 1 P. M. Tuesday, October 11th, in Commercial Club rooms at Effingham, President Walker in the chair.

Members present: J. B. Walker, J. H. Walker, Schifferstein and Groves, Effingham. Tope, Montrose; Phifer, Shumway; F. W. Goodell, Effingham, and Buckmaster, Altamont. Dr. Phifer read a very instructive paper on **cerebro-spinal meningitis**. The essayist related case I. that of a young lady who could not see, hear or speak when he visited her. The case was an extremely severe one. He injected two doses of anti-diphtheritic and anti-streptococcic serum (mixed) and in 24 hours the patient was greatly improved and rapidly made a complete recovery mentally and bodily. In Case II. related by the essayist after the patient—a boy—had lain unconscious for a considerable time he made a spinal puncture and withdrew considerable fluid (though he did not know exactly the amount withdrawn). He allowed the fluid to escape by intra-spinal pressure. In 12 hours the boy rallied and made a complete recovery.

As treatment, the essayist, advised, opium by stomach as needed, sodium salicylate, T. Mur. Iron, etc. When the intra-spinal pressure becomes too great withdraw some of the fluid—repeating the procedure if need be.

He would not hesitate to use the mixed anti-toxins above mentioned in future cases. This paper was a masterly article and was freely discussed. Dr. Groves advised as treatment ergot, calabar bean, gelsemium, opium, calomel and counter irritants. He treated over 70 cases in '72-'73—mostly recoveries, but the majority of these, especially in young patients being imperfect.

Dr. J. B. Walker in discussing this subject, by way of diversion, said that at one time when visiting a patient having puerperal sepsis, in an extremely severe form, oft repeated chills, etc., he had at night injected 4000 units of

diphtheria anti-toxin. Next morning the patient was so much improved that he injected 6000 units more after which she rapidly made an uninterrupted recovery.

The next on the program was the presentation of a patient—boy—13 years old—afflicted with diphtheritic multiple neuritis by Dr. Tope.

On August 23d 2000 units of diphtheria anti-toxin was given and the boy recovered nicely, and in a week was up and going. Later he attended school for a week or two. His recovery still apparently perfect. About 3 weeks after getting up, or about 4 weeks from the onset of the disease he worked very hard for a whole day scooping shelled corn. The next day he felt stiff and bad and on the 2d day afterward he was paralyzed. He now walks with great difficulty, his gait being that of a tabetic. His speech is very poor. He has better use of his arms. Has had diplopia and accommodation is interfered with. At the onset of the neuritis his heart was rapid but now slowed down and is now doing nearly normal work. Patella reflex absent showing it to be plainly a case of **post diphtheritic paralysis**.

Dr. Tope's treatment has been good nourishment, quietude, strychnine, phosphoric acid and iron with Pot, iodide recently added.

In the discussion of the case, Dr. Schifferstein advised, strychnine, hypophosphites, quinine and glycerophosphates of lime and soda.

Dr. Groves suggested Cod Liver Oil and proto-nuclein.

Dr. Phifer the following:

R Potass. iodide	grs. LXXX
Iodine	gr. XL
F. E. Nuc. Vom.	
F. E. Bellad	aa 3II
agua qsad	3II

(Note.) Add the iodine to the watery solution of the pot. iod. then add other ingredients. Sig. 10 to 15 m tid; He also advised galvanism and massage.

Dr. Buckmaster suggested that, barring myocarditis or an involvement of the cardiac nerves or those concerned in the act of respiration—these cases of post-diphtheritic paralysis tend to recover in a few weeks under good nourishment proper hygienic surroundings and with fresh air, intending to keep the patient's exertion below the point of danger to the heart.

Following this, the President, Dr. Walker gave a talk on medical organization, reviewing its difficulties, its benefits, etc., and asked the hearty support of all of our members toward continuing our full membership. He suggested that more effort be put forth to make this a good clinical society.

This subject was fully discussed, Dr. Phifer suggesting that we obtain bodies during the winter and conduct dissecting and operative courses. Dr. Buckmaster suggested that, to celebrate our first anniversary and to rally all of our members and some in the county that are not members—we have a banquet at our annual meeting in December, inviting good musical and oratorical talent and that the day be given to merry making, creating a better fellowship between the physicians of the county and to enlarging our membership for the ensu-

ing year. A motion was made to this effect which was seconded and carried.

### COLES COUNTY MEDICAL SOCIETY.

Regular meetings are held \_\_\_\_\_  
Officers.

President, F. E. Bell.....Mattoon  
Vice-President, Joseph Perkins.....Charleston  
Secretary-Treasurer, O. W. Ferguson.....Mattoon  
Censor, C. B. Fry.....Mattoon

### BOND COUNTY MEDICAL SOCIETY.

Meetings are held semi-annually on the second  
Tuesday of May and October.  
Membership 19.

Officers.

President .....  
Secretary, W. T. Easley.....Greenville

The Bond County Medical Society met in its fall session on October 13th, with a good attendance of its membership. Drs. J. C. Wilson of Greenville and Dr. J. D. Chittum of Sorento, was reinstated to membership. A communication from the State Board of Health in regard to laboratory for bacteriologic research of Springfield was read and commented upon by all present as being a blessing to all. Also a resolution was adopted unanimously that each member of the county society should distribute copies of the circular published by the State Board of Health: "the Cause and Prevention of Consumption." To their patients and others. The subject of Consumption was discussed by all present. The first subject on the program was **Benefits of Organization**. Dr. Vaughn being absent, it was taken up by all, each one expressing his ideas.

The next subject was **what benefits are to be derived from the county and State Societies**. Dr. J. H. Gordon being absent the subject was not discussed, after which the following subject was taken up. **Shall we council with physicians who are not members of the county society?** This subject brought out a very free discussion pro and con. There being a few physicians living in the county who are not members of the Society this was presented for consideration, and various ways were discussed as to how to bring them into the Society. The Society adjourned to meet in Sorento, Ill., May, 1905. After discussion of the place of meeting the Society decided that it would be to the interest of the profession to meet in the above place.

### ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President ..... L. H. A. Nickerson, Quincy  
First Vice Pres ..... John A. Koch, Quincy  
Second Vice Pres ..... J. M. Grimes, Camp Point  
Secretary ..... Geo. E. Rosenthal, Quincy  
Treasurer ..... R. J. Christie, Jr., Quincy  
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.  
Delegate State Society... E. B. Montgomery, Quincy

The regular monthly meeting of the Adams County Medical Society was held in Quincy at the Chamber of Commerce, October 10th, President Nickerson being in the chair.

Those present were: Drs. Ashton, Brenner,



Center, Christie, Hart, Hatch, Knox, Koch, Montgomery, Meyer, Nichols, F. E. Nickerson, Pfeiffer, Robbins, Rice, Rosenthal, Vasen, Williams, W. W. and Wells.

The Society moved to extend an invitation to the Western Illinois District Medical Society to meet in Quincy, October 28, 1904, for the autumn meeting of that body. A committee on entertainment was appointed, consisting of Drs. Hatch, Vasen and Montgomery.

Dr. F. E. Nichols presented an admirable paper on **Ptomaine Poisoning** with a report of cases, to be reported in next months Journal.

#### ROCK ISLAND COUNTY MEDICAL SOCIETY

Regular meetings are held bimonthly at Rock Island on the second Tuesday. Membership 56.

##### Officers.

President.....L. D. Dunn, Moline  
1st Vice-President.....G. A. Wiggins, Milan  
2d Vice-President.....W. L. Ludewig, Rock Island  
Secretary.....T. J. Lamping, Moline  
Treasurer.....C. W. Whiteside, Moline  
Official Reporter.....F. H. First, Rock Island

The society met in regular session on Tuesday, October 11, 1904, at Manufacturers' Hotel, Moline, twenty members present.

The subject of **Appendicitis** was presented by Dr. E. M. Sala of Rock Island and discussed by several members.

**Tuberculosis in Children** was the subject of a very able paper by Dr. Gardner of Moline.

The committee of arrangements for the meeting of the State Society report progress along all lines.

The names of three new physicians were presented for membership in the society.

#### CLARK COUNTY MEDICAL SOCIETY.

Regular meetings are held at Marshall, quarterly. Membership 12.

##### Officers.

President ..... Jos. Hall, Westfield  
Vice President ..... R. H. Bradley, Marshall  
Secretary ..... L. J. Weir, Marshall

Clark County Medical Society met in the court house at 2 P. M. Thursday.

Members present were Bradley, Ryerson, John Weir, W. W. Bruce, Smith, P. P. Haslit, L. J. Weir, H. W. Haslit and Rowland.

The minutes of the previous meeting were read and approved. A communication from the State Board of Health was read informing us of their establishing a laboratory at Springfield for the free examination of specimens of sputum for tubercle bacilli, blood for reaction of typhoid fever and noclous for diphtheria bacilli.

Dr. Ryerson's paper on **insanity**. He presented the subject in a systematic manner and was well received. Subject was discussed by all present. Dr. Smith dwelt upon arterio sclerosis, especially that resulting from alcohol and syphilis, as one of the causes of insanity. Dr. Haslit considered firmness though kindness essential in managing cases of hysteria and other forms of insanity in their beginning. He holds many individuals now suffering under the law are insane and that medical jurisprudence is sadly deficient on this point. Dr. John Weir emphasized the importance, in the treatment of an insane person, of improving the environment, or, better still, getting him away from

too sympathetic friends and other detrimental surroundings, treating associat ed diseases, etc.

Dr. Rowland cited the fact that the time of probable cure is in the first three months, described two interesting cases seen and known for years, demonstrating the usual insanity and the hysterical insanity. The latter was cured by Christ she said "and the cure would last as long as she was good—good to the poor, etc." L. J. Weir reviewed the history of insanity, stating that King Nebuchadnezzar was insane 1000 B. C., instead of "being possessed of a devil," when he ran in the pasture with swine seven years; that the 50,000 persons executed as witches in the 14th to 17th centuries were many of them insane; that all superstition is not a thing of the past in Clark county, and this county is fully abreast with other counties. Symptoms and treatment were discussed also. Dr. Bradley cited some cases following syphilis and typhoid fever. Dr. Ryerson, in closing the discussion, reviewed the whole subject.

It was the concensus of opinion that medical jurisprudence would give more justice if a state commission of experts in mental diseases were selected to examine every one who pleads insanity and give in their evidence before the jury.

It was the unanimous decision of this society that the present plan of management of our state asylums for the unfortunate insane by political pirates instead of by experts in mental diseases, appointments being made according to the political pull an applicant has instead of on the merit plan, is a serious detriment to the scientific and even the humanitarian treatment of these wards of the state.

Drs. H. W. Haslit, G. T. Rowland and John Weir were appointed as a committee to meet with the County Board of Supervisors and offer suggestions regarding the insane in our county poor house, the majority of which inmates have delusions etc., and are insane. It was considered that all dependents are either insane or sick and should be treated according, though it is proper to say that the present management is as good as it ever can be without some changes in the general plans, which plans it is the duty of this committee to study into and report to the Board of Supervisors.

"The Prevention and Cure of Tuberculosis" was selected as the subject for next meeting. The committee on program and scientific work was instructed to prepare a letter or circular expressing the voice of the County Medical Society to the people of our county stating that consumption can be cured and can be prevented; and by preventing well persons from getting the disease from those who have it, the dread disease can be, and will be in time made a thing of the past, just as cholera and yellow fever have now almost completely been eradicated from the face of the earth by scientific, intelligent prevention. Stating also that the physicians of our society, with the help and encouragement of the people, are making every effort henceforth and forever to change the rate of deaths from consumption (eleven per cent of whole number of deaths) in Clark county—the highest per cent of any county in the state,



as shown by State Board of Health statistics for 1902 and 1903, and other facts that the committee or the society at its next meeting might suggest and decide upon. A number of copies to be printed and each with a copy of the circular issued by the State Board of Health on "the cause and prevention of Consumption" to be handed to, or mailed to every family in the county that will probably take an interest in the matter.

Dr. Bruce came into the meeting a few moments and expressed to the society his regrets and the regrets of his brother physicians at Casey that they could not be with us in persons but assured us that their sympathy and best wishes were with us.

Society adjourned.

#### DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month Membership 62.

##### Officers.

President ..... Lynn M. Barnes  
Vice President ..... Clara Garber  
Secretary-Treasurer ..... W. C. Bowers  
Board of Censors: E. A. Morgan, E. M. Anderson, J. Stebbins King.  
Programme Committee: W. C. Bowers, Chairman; E. J. Brown, W. C. Wood, A. Wilhelmy, L. M. Barnes.  
Delegates to the State Society: Cass Chenoweth, W. C. Bowers, E. J. Brown.

The Decatur Medical Society held its regular monthly meeting in the Decatur Club Rooms, at 8 p. m. President Lynn Barnes in the chair.

Dr. J. C. Fisher read a short but excellent paper on **Eye Strain**. This paper was written more especially for the general practitioner. It was free from technical terms and much to the point.

Drs. Saunders, Bumstead and McClelland opened the discussion.

The second paper was written by one of our able country practitioners, Dr. A. T. Botts, of Warrensburg on **Intestinal Antisepsis and Antiseptics**. The paper was well prepared and elicited considerable discussion which was opened by Drs. J. Stebbins King and Will Chenoweth.

Dr. James L. Bevans of the United States Army who is visiting his parents here gave one of the most entertaining and instructive talks the society has heard on the army medical service. He told of the arrangements of a Post Hospital, of the Medical arrangements at Manasses during the late maneuvers there and of a relief expedition in Alaska which he had charge of, traveling 1,000 miles total with dogs, mules, reindeer and sledges to almost unexplored parts to relieve some natives who were dying of disease and starvation.

The government furnished the expedition with sheepskin outer coats the hood having a hair fringe about the face to protect from freezing.

The goggles to keep off snow blindness were made of woven wire, isinglass front and rubber under the edge of the wire to keep the iron from freezing the face.

The natives wear a piece of wood before the eyes with a slit in to see out at but can only see straight ahead in the direction the face is looking.

Pneumonia following measles and other lung troubles are killing off the natives. Mostly from lack of protection and poor food. The American soldiers suffered but little from pneumonia or other sickness because of good food and plenty of supplies.

Drs. R. L. Walston and R. J. Morris were admitted to membership.

Dr. Bevans was given a vote of thanks for his good talk and made an honorary member of the society.

A "smoker" added somewhat to the enjoyable meeting.

The Decatur Medical Society met in the Decatur Club rooms Tuesday evening, October 25, 1904. Dr. Lynn Barnes the President, in the Chair.

Dr. C. Martin Wood showed a patient affected with osteopsathyronis. A boy aged 14, normal size and healthy appearance had sustained 24 fractures of the long bones and several of the short bones. The first fracture occurred at the age of 3 years and the last one (of the olecranon) July, 1904.

Some pain accompanied these fractures but partial healing occurred quickly. The X-Ray showed fibrous union of an old hip-fracture.

Dr. W. A. Melton of Warrensburg read an interesting and well prepared paper on **Acute, Anterior Poliomyelitis**. The discussion led by Dr. F. M. Anderson was earnest and to the point. It has been the experience of the society that arm paralysis in such cases is rare.

Dr. Ben Bachroch read a paper on **Intestinal Autoinfection** and related several cases. The paper was to the point and brought the idea that one can explain some obscure cases where a name cannot be given to the trouble by properly considering them those of autoinfection.

The society voted to use its best influence to aid in "re-establishing sound conditions" in the Medical Department of the Michigan University.

Twenty-three members and one visitor were present.

#### MACOUPIN COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually the third Tuesday of April and October. Membership 40.

##### Officers.

President ..... S. A. Huffman, Chesterfield  
Vice President ..... E. A. Bleuler, Carlinville  
Secretary-Treasurer ..... J. Palmer Matthews, Carlinville

The Macoupin County Medical Society met at Girard, Oct. 18th, in the Odd Fellows' hall at 11 A. M.

Dr. Huffman of Chesterfield in the Chair. The following members answered to roll call: Drs. Huffman, of Chesterfield; J. P. Matthews and J. Palmer Matthews of Carlinville; Dr. Walton of Medora; A. T. Bartlett of Virden; C. J. C. Fischer, J. S. Collins, E. A. Bleuler and J. P. Denby, of Carlinville; G. R. Cowan, Albert Simmons, J. R. Mitchell, G. E. Hill, W. W. Van Wormer, of Girard; J. W. Thompson, Nilwood; Ben Hudson, Palmyra; E. K. Lockwood, Virden; Dr. F. Brother, of Beatrice, Neb.; and George N. Kreider, of Springfield. The minutes of the preceding meeting were read and approved.

The Treasurer reported \$4.05 in the treasury. The name of Dr. E. R. Motley, of Keokuk, Iowa, was presented for membership by Dr. Bartlett.

The Censors reported Carlinville as the next place of meeting.

#### Program.

Essay—By Dr. John Pitt Matthews, on **Rheumatism**.

Essay—By Dr. Ben. Hudson. Subject: Selected.

Reports of Cases—By Dr. Walton: A finger was cut in the joint and the swelling subsided under a septic fomentation and recurred repeatedly, with absence of much inflammation, ending in enlarged gland in the hand.

A young girl suffering with amenorrhoea and fever, began to vomit when given cathartics for her constipation. Finally fever subsided and menstruation was established.

Dr. Hudson reported several slow fevers with severe prostration resembling La Grippe.

Dr. Matthews reported a case in Circuit Court of personal injury. An old lady fell on a board walk in the city of Virden and knocked the skin off her knee. Inflammation extended up the inside of the thigh along the lymphatics to the glands in the Scarpa's triangle. After five weeks two glands suppurated forming a bubo. The relationship between the original wound and the bubo was established and the patient was awarded damages by the jury.

Dr. Bleuler reported a case of appendicitis with removal of a ball of horse-hair which had been swallowed and lodged in the inflamed appendix.

Dr. Kreider spoke on the Journal of the State Society: "Chicago men are eminent and scientific, but they are apt to forget the 6,000 practitioners outside of their city. Many members of the Chicago Medical Society, which has interesting meetings once a week, think the Journal should be enlarged in its scope and should be made self-sustaining."

The speaker thought that the counties outside of Chicago should be given every chance to be heard. Liberty should be shown in admitting all to membership in societies.

Dr. Matthews said: "In my inaugural address as President of the State Medical Society, I said 'State institution appointments should be made from accredited members of the State Society,' and I heartily endorse Dr. Kreider's efforts to get the State Institutions managed by a non-partisan scientific Board."

Dr. Bartlett said: "While the present Governor is a good executive, he is culpable in his stand taken against the recommendations of the State Medical Society."

Dr. Kreider said: "It is good politics to have the State Institutions run in a scientific manner."

A motion was carried that a vote of thanks be extended to Dr. Ferd. Brother, of Nebraska, and Dr. Kreider, of Springfield, for their presence and interest in the Society.

Dr. Van Wormer reported a case of **Epithelioma** and presented the case to the Society. The X-ray had been tried mildly and had stimulated rather than destroyed the growth.

Dr. Thompson read an essay on **hyperchlorhydria**:

Hyperchlorhydria is a symptom of a disturbed nerve function with increased formation of hydrochloric acid.

We do not know all the constituents of gastric juice. Chemically, it is shown in suppression of the function of the kidneys. Toxic bodies are found in the intestines. Augustine found that the gastric juice of the epileptic when injected into a rabbit proved fatal, with general toxic symptoms and clonic convulsions. Hyperchlorhydria is a neurosis and occasionally an adaptation of the mucosa to increased demand for work.

Professor Pawloff has demonstrated the supreme role of the nervous system in the physiology of the gastric digestion. Hunger is a manifestation of mind. Sight or smell of food will bring about abundant secretion of saliva and gastric juice.

Fear will inhibit these secretions, while grief destroys both appetite and digestion.

We can conclude nerves in a state of abnormal irritability, may excite abnormal secretion, or hyper-acidity.

Frequent hyper-acidity of busy men is caused by reflex from overworked nervous system. Eating improper food too fast and with insufficient mastication and the abuse of tobacco are frequent causes. The influence of heredity is incontestable.

Two forms are classified. 1st. Chronic gastritis. 2nd. Neurotic condition only.

The symptoms of chronic gastritis with hyper-acidity: There is history of abuse of the stomach by irritating and excessive food and drink taken at irregular hours and in great haste. The glands become exhausted from irritation and an acidity and gastritis is plainly seen. In neurotic hyperchlorhydria, there is no history of indiscretion of diet.

The symptoms begin after a period of worry or anxiety in business: viz. Gnawing sensation below ensiform cartilage two hours after meals, relieved by eating.

There is eructation of gas and sour food. There is constipation. The patient gradually omits his articles of diet till he falls off in weight and strength. He becomes a hypochondriac. There is dilated stomach and splenchnoptosis.

The patient differs in appearance widely from one with hyper-acidity of gastric catarrh, who is well nourished and over fed.

Benedict's test is briefly: Give, at the height of digestion, 30 c. c. of sodium bicarbonate in water. The stethoscope will note the bubbling of gas denoting free acid in the stomach. Treatment is to avoid any one symptom of the hypochondriac, but give a well balanced, bland diet, with regularity.

A milk diet is too bulky and the acidity may favor fermentation rather than digestion. 1-100 gr. of atropine may be given once a day. Ichthyol, 3. m. in capsules with olive oil should be given before meals and at bed time, producing a gain in patient's weight and strength.

Finally the patients are depressed and should be encouraged by suggestion.



Dr. Walton read an essay on **Obstetrics in Private Practice.**

In the city, with its hospital wards, the ideals of science reign, but with the knight of the buggy case, how different the environments!

The case is successfully treated when the child lives and the mother passes a normal puerperium.

The rural practitioner meets alone all conditions for which the city physician calls to his aid nurses, hospital and consultant.

The obstetric bag should contain castile and liquid etherial soap, hand brush, bichloride of mercury tablets, carbolic acid, alcohol, solution adrenalin, hypodermic ergot, fluid extract of ergot, sterilized vaseline, hypodermic syringe, Hale's obstetric forceps, minor operating case, chloroform, catgut and silk ligatures in original packages, sterilized rubber bandages of gauze and muslin, sterilized gauze strips, gauze packer, long dressing forceps, Grave's speculum, Cavanaugh speculum, curette, subcutaneous infusion set, two-quart fountain syringe, one pound of sterilized cotton and a box of J. & J. baby powder.

The bed should be an oil cloth over a mattress. Place a pad of a dozen news papers between layers of a clean sheet. This pad will absorb all the fluids.

The patient should be given a full bath and put to bed with her gown drawn up over her shoulders to prevent soiling, and covered with a clean sheet.

The temperature should be such that no other covering is required.

With hot, boiled water, the hands are scrubbed with castile soap and finished with ether soap. A solution of 1-1000 bichloride of mercury is made to sponge the patient's pudenda when a complete vaginal examination is made to determine the stage of labor and if any dystocia is present render any assistance when necessary.

The patient is not required to keep her bed. The dorsal position in the second and third stage of labor is preferred.

The ante-partum douch is never used in normal labor. The post partum douche is only used in infected cases.

Chloroform has not been used in any uncomplicated cases. The conscious co-operation of the patient is a safeguard against injury.

The placenta is delivered as soon as the cord is cut by Crede's method of expression. By pressure the uterus is kept contracted until the abdominal binder is applied and worn for two weeks.

After a sponging with bichloride of mercury 1-1000 of the thighs and pudenda, a vulval pad of absorbent cotton is applied to be renewed when necessary.

Fluid extract of ergot and morphine tablets are left for the after pains and the bowels are moved the second day with castor oil.

The child's mouth is cleared of mucus as soon as the head is delivered. After pulsation ceases the cord is tied with a large linen ligature. The child is wrapped in warm flannel and protected from draughts.

The body is anointed with sterilized vaseline. The cord is dressed in absorbent cotton and dusted with J. & J. powder when moist. It separates in about five days.

In all surgical procedures such as the repair of the perineum and cervix, version and instrumental delivery. Classical modern surgery is followed. All surfaces are treated with pure carbolic acid.

Rubber gloves are not used because the bare hands are more dextrous and speedy.

Visits are made on the 3d and 8th day. Careful attention is given to sore nipples to prevent mastitis.

On motion a vote of thanks was extended the Girard doctors for their hospitality. These papers were on motion accepted by the society as contributions.

Pamphlets on Consumption from the State Board of Health were distributed.

Society adjourned.

J. Palmer Matthews, Secretary.

#### MONROE COUNTY MEDICAL SOCIETY.

Regular meetings are held bimonthly at Waterloo. Membership 9.

##### Officers.

President, J. S. Sennott.....	Waterloo
Vice-President, M. G. Nixon.....	Columbia
Secretary, A. J. Lee.....	Valmeyer
Treasurer, N. B. Pautler.....	Waterloo
Delegate, L. Adelsberger.....	Waterloo
Censors, J. C. Fults, Waterloo; O. Kuehn, Burksville; Dr. Kohlenbach, Columbia.	

Society met in regular session, Vice President Dr. Sennott in the chair. Members present, Drs. Sennott, Vice-President, Adelsberger, Secretary, Lee, Fults, Kuehn, Schellschmidt, Nixon, Pautler and Kohlenbach. Minutes of previous meeting read and approved. The applications of Drs. Kohlenbach, Douglas and Pautler were referred to a special committee of censors, consisting of Drs. Nixon and Lee, and upon the committee's favorable report, the applicants were duly elected by viva voce vote, the rules having been suspended. Communications from the American Medical Association and Illinois State Medical Society relative to reorganization of the Monroe County Society, etc., were read and a bill of \$1.75 for 100 postal cards and printing allowed to Chas. Dalkert. The election of officers being next in order the above officers were elected by acclamation.

The officers will take their seats in June, 1905. Upon motion of the Secretary he was instructed to send copies of Methods and Benefits of Medical Organization by McCormack, and the Organization of the Medical profession by Simmons, to every physician in the county not a member of the Society.

Dr. Kuehn related a case of a child (girl) 7 years of age, which at first he thought one of neglected malaria which was presented to him on August 13. On August 15, two days later he was attracted by the erratic temperature, which continued until September 15, the case presenting during this time symptoms of typho malarial fever but no pronounced symptoms of typhoid. During this period the pulse was never less than 100 nor more than 120, and the temperature ranged from 97° to 104° without apparent reason. He used Cactus and after depression of



heart alcohol. In the discussion Dr. Lee was of the opinion that the case might have been one similar to a recent case which came under his observation of inflammation of the bladder in which for no apparent cause the temperature was erratic for a considerable length of time. His diagnosis was typhoid, but Widal's test failed to confirm it. Dr. Sennott was of the opinion after examining the chart of temperature which Dr. Kuehn submitted that the case was one of malarial fever in which in addition to medication he would give a good liberal diet.

Dr. Fults suggested large doses of quinine in such cases.

Dr. Nixon was of the opinion that the case was one of typhoid fever, pure and simple, in which opinion Drs. Pautler and Adelsberger concurred.

Dr. Nixon related the case of a woman, age 31, married five years, who menstruated regularly during past two years and complains of constant cephalalgia. Upon thorough examination, as to cause of headache, and finding none, the doctor suggested a uterine examination. The patient took the matter under consideration, and some months later, in March, 1903, returned to his office complaining as previously of headache and pain during menstruation. Upon examination he found a hard mass to the left of the uterus, and on March 26th, sent her to a hospital for further observation. Upon operation at the hospital a cystic ovary of the left side was found and a fibroid tumor in right horn of uterus removed, and a diagnosis of pregnancy made.

The patient continued to menstruate regularly every month and on Oct. 7, Dr. Nixon attended his "patient as accoucher, delivering her of one of the nicest little girls you ever saw."

Dr. Sennott asked for information as to what the consulting physician called the "blue mass" in uterus, to which Dr. Nixon replied that he, the consultant, diagnosed it as a foetus. Dr. Schnellschmidt asked the speaker relative to gastric disturbances prior to her confinement and was informed that the patient had not been subject to any gastric disturbances prior to her confinement and was informed that the patient had not been subject to any gastric disturbances whatever.

Dr. Schnellschmidt stated that in a number of cases he had seen with Dr. McMurtry of Louisville, of intra and extra uterine pregnancy, he could not recall one without gastric symptoms.

Dr. Lee read a paper of some length upon **Typhoid Fever**, its etiology, duration, symptomatology, and treatment which was discussed by all the members present; an especial attention being given to the dietetic treatment of typhoid, attention being called by Dr. Adelsberger to the smaller percentage of deaths in the West to those in the eastern portion of the United States, attributable only to the starvation diet upon which the western physician puts his patient.

The chair appointed Doctors Heidleberg, Fults, Pautler and Kohlenbach to entertain the society at its next regular meeting, Monday, June 5, 1905.

Adjourned.

#### McLEAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Bloomington the first Thursday of each month. Membership \$5.

##### Officers.

President.....F. C. Vandervort, Bloomington  
Vice President ..... A. L. Fox, Bloomington  
Secretary-Treasurer.....R. A. Noble, Bloomington  
Censors: C. M. Noble, J. E. Fenelon, C. E. Chapin

The McLean County Medical Society was called to order by the President, F. C. Vandervort at 7:45 P. M.

The minutes of the last meeting were read and approved. The Board of Censors reported favorably on the name of Dr. Frank Potts and upon vote of the Society, the Secretary cast the ballot favorably for Dr. Potts.

Dr. Hugh Hoover, Dunham Medical College, 1900, Stanford, was presented for membership by Dr. A. R. Penniman and referred to the Board of Censors.

Dr. Lee Smith, for the Committee on Publication, reported progress and expressed the wish that the Committee's work would soon be completed.

Dr. F. C. Vandervort stated that upon learning of the death of Miss Parkhurst, daughter of Dr. F. Parkhurst, he had sent a floral offering in behalf of the Society and that he had appointed Dr. E. Mammen and Dr. J. Whitefield Smith to draw up resolutions for the Society. Dr. E. Mammen presented the following resolutions:

##### A TRIBUTE.

How true and yet how sad are the words of the poet in "The Hour of Death" when she says:

"Youth and the opening rose  
May look like things too glorious for decay,  
And smile at thee—but thou are not of these  
That wait the ripened bloom to seize their prey."

—Hemans.

Youth symbolizes the immortal part of our nature. The finer the organization and the greater the ability, the more difficult and trying are its experiences.

There are moments in the life of the young imagination when the splendor of its dreams fills the soul with rapturous delight and possibilities, because youth is possibility; that is its charm, its joy and its power. But in reaching its perfection of beauty, the flower must part with the dewy promise of its earliest growth. If perchance the shadow of that crisis we call death should fall upon youth's morning, the possibilities of the soul are then developed in the life beyond.

Such is the case. A dear young life has gone out of the home of one of our number. Miss Frances, daughter of Dr. and Mrs. Fred Parkhurst has gone from them in her youth.

This Society in the depth of their feeling, desires and does hereby express their deepest sympathy to these bereaved parents.

Instead of mourning let us look up and address her in the words of the poet:

"Thy day has come, not gone,  
Thy sun has risen, not set;  
Thy life is now beyond  
The reach of death or change,  
Not ended—but begun.  
Oh, noble soul, Oh gentle heart,  
Hail and farewell."

Dr. E. Mammen reported for the Executive Committee of the McLean County Medical Society having in charge the local arrangements for the State Society. Report showed surplus of \$105.00. The Society had voted \$50.00 to the Business Men's Association for the use of the Sanitary Committee and the balance to be turned over to the Treasurer of the County Society, to be disposed of by vote of the Society. The State Society have made demands on the executive committee for the surplus money, claiming this to be in accordance with previous custom and in accordance with by-laws adopted at the meeting held here in May 1904. The Executive committee of the local Society do not agree with the State Society and the money has not been turned over to the State Society and no report has been made to the State Society. Committee asked to be discharged. Moved and seconded that the committee be discharged and the report adopted. Drs. Mammen and C. M. Noble, on question of privilege, gave further explanation of the situation, showing that the State Society had refused to be responsible for any deficit should any occur; that the local executive committee was appointed by the local Society and not by the State Society; that the local executive committee had no recognition from the State Society, no invitation to meet with the State Society and was in no manner a creature of the State Society.

Dr. C. E. Chapin and Dr. Lee Smith spoke in support of the committees action and the Society unanimously approved.

A communication from Dr. J. B. Taylor, outlining the report of the Sanitary Committee for November, was read and the report approved. Arrangements left to the President and the Sanitary committee.

The following bills were allowed, Nimrod Mace, \$12.50; R. A. Noble, \$4.00; Illinois State Society for thirty-four memberships \$51.05.

A communication from the Secretary of the State Board of Health relative to the establishment of a Free Laboratory for the examination of sputa, blood, etc., was read.

Dr. F. C. Vandervort read an able address, complimenting the members on the harmony which prevailed among the members and pointing out the importance of a Fraternal feeling among the Physicians.

Eighteen members were present and thoroughly enjoyed the timely remarks of Dr. Vandervort.

#### PROGRAM FOR COMING YEAR.

##### November.

Report of Health Committee on Bacterial Investigation of Milk Supply.

##### December.

Medical Jurisprudence, W. W. Whitmore.

##### January.

Practical Application of Routine Blood Examination, Dr. Ralph Fox.

Discussion led by Dr. J. K. P. Hawks.

##### February.

Rheumatism, Dr. Edson Hart.

Discussion led by Dr. T. J. Mullen.

##### March.

Surgical Tuberculosis, Dr. W. E. Guthrie.

##### April.

Annual meeting.

Address, Senile Gangrene, Dr. Geo. N. Kreider, Springfield.

Election of officers.

##### May.

Headache; Its Significance in Disease, Dr. O. M. Rhodes.

Discussion led by Dr. E. S. Reedy.

##### June.

Tetanus. Report of a Case with Recovery, Dr. L. J. Hammers.

##### Membership.

Absher, A. A., Sibley; Adams, E. M., Gridley; Albright, A. C., Sibley; Allyn, Danvers; Ayling, C., Gridley; Ballard, H. F., Chenoa; Balcke, W. A., Cropsey; Bath, W. T., Bloomington; Bane, S., Ellsworth; Banks, J. H., Atlanta; Boulton, S. S., Hudson; Bonnett, J. Y., LeRoy; Brown, E. L., Bloomington; Carr, C. R., Bloomington; Chapin, C. E., Bloomington; Chapin, H. S., Holder; Chapman, A. L., Carlock; Cody, J. M., Tremont; Coss, W. A., Danvers; Crocker, F. L., Weston; Covington, E. G., Bloomington; Covey, J. E., Bloomington; Dally, H. M., Bloomington; Douglas, D. F., Colfax; Elder, D. G., Bloomington; Elder, H. W., Bloomington; Fenelon, J. A., Bloomington; Fox, A. L., Bloomington; Fox, Ralph, Bloomington; Fulwiler, J. W., Bloomington; Godfrey, F. H., Bloomington; Golding, D. G., Arrowsmith; Gordon, R. E., El Paso; Guthrie, W. E., Bloomington; Hammers, L. J., Lexington; Hart, Edson, Bloomington; Hawks, J. K. P., Bloomington; Hearing, O., Bloomington; Henton, A. F., Bloomington; Heyward, C. E., Cropsey; Hall J. Whitney, Chicago; Hill, William, Bloomington; Howell, H. L., Bloomington; Horn, W. L., Boulder, Colo.; Hull, M. D., Bloomington; Hyndman, Eliza J., Bloomington; Jackman, F. O., Bloomington; Kell, H. A., Hospital; Kaeser, A. F., Highland; Keith, Lou S., Towanda; Keys, T. W., LeRoy; Kunkler, J. E., Bloomington; Little, J., Bloomington; Mammen, E., Bloomington; Meyer, A. W., Bloomington; McCormick, F. C., Normal; McCormick, N. K., Normal; McIntosh, Wm., Anchor; Mittan, F. J., Decatur; Mullen, T. J., Bloomington; Noble, C. M., Bloomington; Noble, R. A., Bloomington; Noble, J. P., McLean; Nusbaum, D. H., Storm Lake, Iowa; Orner, C. T., Bloomington; Peers, Ralph, Normal; Parke, C. R., Louisville, Ky.; Parkhurst, F. J., Danvers; Penniman, A. R., Stanford; Reedy, E. S., Bloomington; Rhodes, O. M., Bloomington; Rogers, A. E., Bloomington; Sargent, E. E., LeRoy; Shinn, W. R., Chenoa; Skaggs, L. A., Ellsworth; Sloan, E. P., Bloomington; Smith, J. Whitfield, Bloomington; Smith, G. R., Bloomington; Smith, Lee, Bloomington; Speer, L. E., Shirley; Stevens, S. L., Dalton City; Taylor, E. M. K., LeRoy; Taylor, J. B., Bloomington; Turner, Frank, Heyworth; Tuthill, J. A., LeRoy; Vandervort, F. C., Bloomington; Welch, F. J., Bloomington; Wakefield, F. L., Heyworth; Weiland, E. G., Bloomington; Winter, H. A., Saybrook; Yolton, R. G., Bloomington; Yolton, J. L., Bloomington.

Deceased 1903-1904, Dr. S. L. Chapin.



# Chicago Medical Society.

*The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.*  
**Membership 1512,**

## OFFICERS:

J. B. MURPHY, 100 State Street..... President  
FRANK X. WALLS, 4307 Ellis Avenue..... Secretary  
A. E. HALSTEAD, 2937 Indiana Avenue..... Treasurer  
W. A. EVANS, 103 State Street ..... Chairman Medicolegal Committee  
W. M. HARSHA, 103 State Street ..... Chairman Membership Committee

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NOVEMBER, 1904.

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A regular meeting was held October 5th.

Prof. Coromilas of Athens, Greece read a paper on the use of bisulphide of carbon in the treatment of tuberculosis. This long and exhaustive paper being too extensive for our columns we give the main points in abstract. The professors based his statements on the favorable results obtained in Greece and France since 1891-92. The point he especially emphasized was that the hypodermic use of this remedy exerts a favorable influence on the white blood corpuscles. The use of the same remedy by intra-tracheal instillations is also recommended. The professor himself has treated 66 patients including pulmonary disease in its several stages, lupus, spondylitis, anal fistula, tumor albus of the knee and shoulder and tuberculous peritonitis.

The favorable results of the treatment are attested by letters from Dr. Auguste Poizier and Dr. P. Roger and Dr. Bessan superintendent and attending physicians respectively of the Pean International Hospital, Paris, and by Dr. F. de Martigny of Montreal, Canada. His conclusion was as follows. My extensive experiments, the favorable opinion of eminent scientists of Greece, France and Canada have induced me to leave Greece and to salute respectfully the new world, so illustrious and so much admired by all contemporaries; the land of labor, of progress, of fraternity and equality; the land that receives in its bosom and protects alike all those that ask for help without consideration of race, country or religion. For these reasons and because of my satisfactory results I conclude

(1) That the bisulphide of carbon as administered by me has no disagreeable results.

(2) It has a strong action against the bacillus tuberculosis.

(3) Because of its parasitic antizymotic, antiseptic and inoffensive action it is capable of penetrating all tissues and in this manner cures tuberculosis.

(4) Consequently it should not remain un-

known but should take its place in therapeutics as one of the specifics of our time capable of doing immense service to suffering humanity.

(The paper was not discussed.)

**Some Common Errors in the Treatment of Pulmonary Tuberculosis.** Dr. Norman Bridge, in a paper with this title, read at the same meeting, said that the current methods in the treatment of the pulmonary form of tuberculosis averaged better than those of old. Results showed this fact. The mortality of tuberculosis had been reduced in less than three decades by probably 29 per cent of the former figure, or from 14.25 to 10 per cent of all deaths. These results were not accidental, but were clearly due more to the better management of the pulmonary form than to any other influence. He said it was somewhat easier for the practitioner to think that quinine or cod-liver oil, or creosote, or a change of climate, some inhalations of drugs or a so called antitoxin, was good for tuberculosis, than it was to understand the great first purpose of all treatment was to increase the physiological power of the patient to resist the disease and destroy or circumscribe its course within his own body. With all our study and experimentation, and notwithstanding all our theories and hopes, this truth stood as the one cardinal postulate of the subject up to the present moment. Our greatest and most common error had been against this truth, and the results had been correspondingly sad. To give creosote to the extent of lowering the digestive power, or to give serum injections to the production of phlegmons and higher temperature, or to give coal-tar drugs for fever, while the patient was allowed to go on in his usually unhygienic course of life without advice of correction, was an error so awful in its results that not even confession and penance were sufficient atonement. And all practitioners had sinned in some of these directions, and some of them grievously. Every patient should be constantly supplied with outdoor atmosphere in such abundance that every successive inspir-



ation brought a fresh dose of air to the lungs and none from previous expirations. Every one should have long hours of rest; if feverish, the rest recumbent should be almost or quite constant, for exercise increases the fever. The digestive powers should be made to do their best under the most careful supervision and direction toward improving the nutrition and possibly also the resisting power of the patient. Practitioners have believed the patients who say they could not eat because they had no appetite, forgetting that a patient could usually be led to take the right food as well as to take medicine. Practitioners have agreed with the patient's theory that an appetite is necessary, and that food must be adjusted to the appetite; whereas, the truth was that in tuberculosis the food ought to be adjusted to the patient, and the appetite to be ignored almost completely. A tuberculous patient was never helped to resist the disease by muscular development above his normal standard. A consumptive's body should always be well and equably clothed, and never be hampered or restricted by garments. Snug corsets and conventional gowns were an abomination for the tuberculous woman. Worn as they were by most such women, they frequently tipped the scales in favor of death rather than recovery. Pulmonary tuberculosis was a long disease, and required a long and steady course of the best hygiene and management to ensure final and lasting recovery. Climatic treatment of tuberculosis had rightly become popular the world over; yet he was compelled to the belief from abundant observation that of all the remedies prescribed for the tuberculous, one of the most unfortunate and unsatisfactory was climate as it was usually employed. Going away for climate was one of the most abused and misused of all the great measures for the sick; and so ought to be a blessing unspeakable often became a pitiful deception and a vision of death. This misfortune was largely an error of the people, but the profession was greatly at fault about it also. In more than half of the instances where it was advised it was for the wrong kind of cases, or at the wrong time, or for the wrong people; that is, with poor regard for all the circumstances in the situation. The author mentioned a list of faults of climatic treatment. Finally, the surest proof of skill and usefulness of a physician was his capacity to turn to the benefit of the sick the simple and homely facilities that were all about them. The best results with the fewest tools was the test; and no more inviting task was ever offered to physicians than to bring to the thousands of tuberculous victims, who were unable to go properly to the better climates, and at or near their homes, the benefits of the modern treatment of this disease. And it could be done, either in their own houses or in home sanatoria, and done superbly in a large proportion of cases. If it were done, it would reduce the mortality another ten per cent, and it would be done, for the twentieth century internist was capable of it, and he must not fail.

Dr. Hugh T. Patrick showed a **Case of Idiopathic Muscular Atrophy**, the patient being a young woman, twenty years of age, whose

trouble began at the age of twelve. She had never been able to close her eyes tightly. She had never been able to whistle or pucker the lips normally. There was marked lordosis. At the age of twelve she was noticed to walk in a peculiar manner, with the shoulders thrown back. The muscles about the arms and shoulders were very weak, and although the deltoids were large and hard, they were weak. There was more or less weakness of the scapula owing to paralysis of the serratus. The case corresponded with the Landouzy-Dejerine facio-scapulo-humeral type. The patient had an affection of the gluteal muscles, and of the psoas and iliacus, whereas the muscles in the lower limbs were good. She could not raise her toes so as to stand on the heels. The case was atypical in distribution, in that it partook of many of the different types. The kneejerks had almost entirely disappeared when she was admitted to the hospital, but under large doses of strychnine they became distinct, so that now they were normal. Dr. Patrick showed next a case of multiple neuritis, which manifested several interesting features. A third case was one of acroparesthesia nocturna in a young woman, twenty-three of age, who had had this trouble for two years. She was not troubled during the day. In the night she would awake with numbness and tingling which was so intense as to almost amount to pain. The attacks began in the right arm, paralyzing it for the time being, but after getting out of bed, rubbing the arm, putting it in hot water, shaking it, etc., the tingling disappeared, after which she would go back to bed. As a rule, she got this tingling only once in the night. The next case was one of cervical rib. He said cervical rib was not frequent, and most of the cases of cervical rib had been discovered accidentally, either post-mortem or during an examination for other trouble. He showed other cases of muscular atrophy and of multiple neuritis. His last case was one of Caisson disease. The patient could not use his leg below the knee. Patient worked in a caisson, seventy-five feet below the surface, in which the pressure was twenty-five pounds to the square inch. He felt no inconvenience from working aside from pressure in the ears. After working in a caisson for some time, he began to feel tingling and numbness in his legs, so that they eventually became useless. He felt this tingling in his arm also, lost consciousness, and was unconscious the first night after the attack. The next morning his legs were paralyzed. He felt dazed and confused. His arms were all right the next morning, but his legs were completely paralyzed. The speaker said that this disease could be avoided if proper precautions were taken.

Dr. Charles L. Mix reported a case of **Traumatic Neurosis Associated with Tabes** in a Negro. He said that the cases were unusual. Clinicians of large experience had described but very few cases. In this case the tabes was clearly traceable to specific infection, but the patient's neurosis was caused by a railroad accident.

At the regular meeting held October 12, Dr. Thomas read a paper entitled **The Scien-**

**tific Struggle to Cure Pulmonary Tuberculosis in the United States Since 1882.**—See page 544. Dr. J. W. Pettit of Ottawa, presented a paper entitled **Some Practical Phases of the Tuberculosis Question.**

Dr. Thomas has given us a very complete resume of the treatment of tuberculosis since Koch's discovery of the tubercle bacilli. He also coincides with the views so generally accepted by the profession that the so-called open air and dietetic treatment is the only one that offers practical results. Notwithstanding this fact we have not applied our knowledge with that vigor and promptness which should characterize our profession. The reason of this perhaps lies in the fact that home treatment is not as a rule practicable; first, because so many cases occur in families where it is not possible to make the application; and second, where patients are more favorably situated, it is impracticable for the reason that the modern methods have not been accepted by the laity with that degree of confidence so essential to applying the treatment successfully. A third reason might be given, that the methods are not well understood by the average physician and where they are, they consume so much time and energy that it is hardly possible for the busy physician to get the time from his other work to devote to the few patients whom he may have under his care. In other words, it is practical rather than theoretical reasons why the treatment which is so generally accepted by the profession is not more in vogue. I am a firm believer in the practicability of the home treatment in tuberculosis, but I believe before that time comes, the education of the public and profession must come through sanatoria. That sanatoria are to be the training schools which shall be centres of influence in propagating the new doctrine and its methods; therefore I believe it will be wise for the profession to devote its energy to the establishment of sanatoria rather than take the risk of bringing the modern treatment into disrepute by the many failures which must result through lack of experience on the part of patients and friends. I am inclined to emphasize this fact by reason of my personal experience in endeavoring to carry out the essentials of treatment in the home life of my patients. I have made some brilliant successes, miserable failures, and refused other patients who could and would have been benefited, if the attempt had been made in properly conducted sanatoria. The conditions seem to be analogous to the boy who attempts to secure an education at home, surrounded by the distractions of home life. He can do it if he has more than the usual amount of persistence and is not too easily discouraged. In other words, the exceptional person may secure an education in this way, but the rule is that those who attempt it will fail. So it is with the attempt to cure tuberculosis at the patient's home and for substantially the same reasons. The difficulty lies in the fact that in either case, the other members of the family must conform to the life of the student or patient, a thing rarely ever practicable and frequently not even possible. Even were it

possible to so order the affairs of the family as to conform to the interests of the patient he would still lack the moral support of others afflicted as he is. The soldier who can touch elbows with his comrades is braver and more efficient than the lone sentinel who is left to fight alone.

After all, the success of the modern treatment of tuberculosis does not depend altogether upon what can be done but what patients will accept. It is not enough to place before these patients an opportunity to get well. They must accept what is offered. Otherwise it is useless. Many of them are apathetic, most of them whimsical and impatient of restraint. This makes the task of carrying out a long course of treatment always difficult and too frequently disappointing. This may be assigned as an additional reason why home treatment will so frequently fail under present conditions. My experience thus far has demonstrated that it is difficult to keep out of sanatoria the advanced cases for whom little or nothing can be done, and more difficult to hold the patient for whom I can do much. The patient who improves rapidly is soon restored to his normal weight, feels perfectly well, can see no reason for remaining in a sanatorium where so far as he can see all there is to the treatment is to eat, sleep, and live in the open air. He cannot distinguish between his feelings and his actual condition, hence becomes impatient of restraint and, notwithstanding the earnest entreaties of his medical advisor and his warning that such a step is fraught with danger, the average patient will leave just at a time when his recovery is assured, but not yet complete. Some of them go home, carry out the essentials of the treatment and do well. Others return to their old life, are soon as bad or worse than ever, and as a result the failure is charged up to the method of treatment.

The difficulty at present lies in the fact that the impression seems to prevail that the treatment is not only pleasant but easy. The patient is recommended by his physician to go to a sanatorium, with the understanding that all he has to do is to eat the best of food and live in the open air. He is apt (and particularly of a young person) to regard the whole affair as an outing. The novelty appeals to him. When this is worn off the life is apt to become irksome. If he improves he elects to say how long he shall stay. If he does not he makes this an excuse for returning to his home. In this we are met with the fundamental fact that the average patient is much less concerned about his welfare than are his friends and medical attendant. I greatly fear that the enthusiastic reception given the modern treatment of tuberculosis, will not continue. This unfortunate contingency may be very largely obviated if, in disseminating the new doctrine, we as medical men, will be more careful to emphasize the fact that there is no royal road to health for the tubercular patient any more than there is to knowledge. That the modern treatment holds out no hope to him, unless he is willing to accept all the conditions which it imposes. Cornet has summarized this whole



question in the statement that, "Without the co-operation of the patient the physician can do nothing."

The teaching that is so prevalent among physicians at present, that the treatment is not only simple but easy, that anything is good enough for the tubercular patient, is extremely pernicious. The doctrine that comfort should not be considered is baneful in its effects. We must bear in mind that all our recommendations, when generalized, must apply to the average patient. The exceptional patient may be willing to live on a fire escape, the roof of a house, a tent, or an old shack in the back yard, to be exiled from society, always be expected to eat the right kind of food, whether he wants it or not, exercise intelligently, and accept all the other conditions which such a life imposes. The average patient will not, hence the recommendation is useless. For my part I can see no reason why the tubercular patient should not be made comfortable during the course of his treatment. This is not inconsistent with the essentials of treatment. I believe it can be made attractive in many ways and that every effort possible should be made to do so. Because we have discovered the correct principle of treatment, we are too prone to ignore the fact that success depends quite as much upon correct methods as upon the principle itself. We are inclined to regard methods as either very simple or a matter of indifference. This is where we err and wherein the treatment fails it will be the result of such indifference to methods as I have indicated.

Another practical point and one which is essential to success is the importance of an early diagnosis. It is self evident that the earlier the diagnosis is made the more certainly can a cure be effected. The profession must awaken to a realization of the fact that if the disease is not diagnosed until it is well advanced, as is now too often the case, the time when a cure could have been effected may have passed. Unfortunately such mistakes cannot always be remedied. Many a patient's life is sacrificed because a diagnosis is not made early enough for him to avail himself of the advantages of treatment. As physicians we should be on the alert to recognize the disease early and if, after the most painstaking efforts, we fail to diagnose the disease, and still have reason to suspect it, we should give the patient and, not the disease the benefit of the doubt by promptly placing him under proper treatment.

The balanced ration is an essential feature in the treatment of tuberculosis. Since the whole question is one of nutrition it is essential that the patient be fed, not what his appetite may suggest, but a balanced ration, which shall contain from day to day all the elements of nutrition, which the tubercular patient so much stands in need of. In order to accomplish this the one who prepares his food must have a scientific knowledge of food values. Not only is this essential but the palatable preparation and the esthetic service of the food is quite important. This can only be done by cooks who have had scientific training such as is

given in the best domestic science schools. This leads me to suggest that domestic science as taught in many of our technical schools will play an important part, and should occupy a conspicuous place in the treatment of this disease. To this end, and with this in view, I have the honor, as I believe, to have secured the services of the first domestic science graduate who has engaged in this work.

We are now seeking to arouse a public sentiment that will result in the establishment of state sanatoria for the care of the unfortunate poor who may be afflicted with tuberculosis. I trust we may guard against the mistake that has been made in all our state institutions, without a single exception. Money has been lavishly expended in the erection of buildings and equipment. The observing person who visits these institutions is apt to get the impression that they are maintained for the benefit of those who minister to the wards of the state, instead of the unfortunate classes in whose name they are established. While we should have due regard for the comfort of the tubercular patient, it is not necessary, neither is it desirable, that they should be housed in expensive buildings. Perhaps no class of patients can be more cheaply provided for in this respect than consumptives.

The true function of the sanatorium should be regarded as a training school. Not with a view to keeping the patients until they are entirely cured, but to demonstrate to them the benefits of the treatment, teach them how to live and send them home to complete the cure and be centres of influence in propagating the new doctrine in their respective communities. By carrying out this idea many more patients can be accommodated, and the salutary influence of the sanatorium be more largely felt.

Working out these practical phases of the question is a much less inviting field of operation than is the scientific investigation of the subject. A scientific fact is of but little value unless practically applied. We cannot all occupy the more fascinating field and exalted station of the investigators. Many of us must be "hewers of wood and drawers of water." For my part I am willing to take my place with the latter class. If we occupy a less conspicuous and exalted position our work is none the less important. It is our duty to put into practical operation the scientific truths in relation to tuberculosis, which investigators have elaborated after long and patient research. This involves the education of the public generally and can only be accomplished by thorough organization of all the social factors. From the present standpoint of ignorance and apathy, both lay and professional, it seems a herculean task. Illinois is the first state to undertake a systematic and comprehensive organization. Much has been done already, but the task is only just begun. The medical profession have very properly inaugurated the present crusade. They must continue to lead and direct it. In this we should be prompted by a sense of duty. If not, our professional pride should stimulate us in completing a work which has been so auspiciously begun. Per-



sonally I have no doubt whatever that the crusade will be skilfully conducted; that the forces now being organized will soon give such an impetus to the movement that within a few short months indifference and skepticism will yield to an enlightened public sentiment, which will not only care for those afflicted with the disease, but relegate the "great white plague" to the place in the list of diseases where it belongs.

These are some of the many practical phases of the question which must be met in the solution of this great problem.

#### Traumatic Neurosis Associated With Tabes.

**Dr. Charles L. Mix:** I shall not take up very much of your time, owing to the lateness of the hour; yet I wish to show this case on account of the unusual association of two affections. Dr. Patrick has just presented a case in which hysteria was associated, in slight measure, with tabes, and the case I show you now is one in which traumatic neurosis is so associated, and in which the neurosis practically overshadows the tabes. The case is one of railway accident. This man, colored, was in a Rock Island sleeper when it was butted into by a row of freight cars, and he was given a bad shaking up. Immediately after that, according to his statement, he began to notice trouble. The trouble was not very severe, but as time went on it became aggravated. The accident happened two years ago.

It is unnecessary to say anything relative to tabes in the negro. Such cases are unusual, but they exist. Clinicians of large experience have described but very few cases; possibly it is true that in Chicago we have more than our usual share.

The first thing that is striking in this man's case is the changes in the sensory disturbances as they are ordinarily seen in tabes. When I touch with my brush the left side of his face he says he does not feel it. When I pass the brush successively across the face, he says that the sensation changes in the midline, as I go from right to left. Everything to the left of a line drawn vertically downward about one inch to the left of the midline of the body is anesthetic. Instead of the anesthesia being exactly limited by the midline, the line of demarcation between esthesia and anesthesia, is to the left side of the center; and such deviation is common in cases of this sort. Not only is there anesthesia, but there is also analgesia. Over the shoulders and on the back he says it feels as though I was trying to pinch the skin, when I attempt to loop it up and insert a pin. A pin so inserted (illustrating) apparently causes him no pain. Very frequently in these cases there is a certain amount of dermographia, but it does not show upon his dark skin.

In a case of this nature, where we find such a symptom-complex, we should expect to find, on examining the reflexes, great increase in the patellar-jerks. (Patient crosses one leg over the other, and Dr. Mix tries to elicit the patellar reflex.) In this case, however, the knee-jerks are absolutely abolished. When we try to obtain his Achilles reflexes, they are

found to be completely absent. It is hardly necessary to go into details in regard to the entire symptomatology of tabes. He has the Argyll-Robertson pupil, but not absolutely perfectly. It is perfect in one eye, and almost perfect in the other. The girdle sensation in his case is described very nicely. He tells me that not infrequently he has looked to see whether his under-garments were not too tightly buttoned around his waist, because they felt that way; and yet he has always found them as they should be.

In examining the deep sensibilities the loss of which furnishes one of the first symptoms of tabes, we find an absolute loss on the left side of the body, but a very slight loss on the right side. It is utterly impossible to say how much of the loss of the deep reflexes on the left side is due to the traumatic neurosis, and how much is due to tabes. The probabilities are that a large part is the result of the neurosis.

I have looked up the subject of trauma in relation to tabes, and so far as I can find, there are but two recorded cases of the association of traumatic neurosis with tabes. Both of these were published in the *Zeitschrift für Nervenheilkunde* last year. In one case the only symptom was a tremor, with more or less photophobia, and in the other case there was a certain amount of paresis.

In these cases of association of trauma with tabes, there are two questions which are perfectly legitimate, the first one of which is this, does tabes have any relation whatever to trauma? Can trauma be regarded as an etiological factor? I think the answer must be no. If we think for a moment of the pathogenesis of the tabes, we are obliged to say no, because undoubtedly tabes is a toxemia. It is a toxemia which, in ninety per cent. of the cases, if not a hundred, is due to syphilis; and in this case it is of that nature. The papery, whitish scars on his leg are conclusive proof of the fact that there has been specific infection, although it is denied. Remember that there is a law suit in this case, and it does not pay to admit too much even in a clinic.

A theory of tabes is that advanced by Obersteiner and Redlich, in which it is supposed that there are thickenings of the pia mater, cutting off the posterior nerve roots, and giving rise to the shooting pains of which this patient has a good many. But it is impossible to figure out trauma as the cause of such an association. The only traumatic theory is the one advanced by Hitzig, in which the statement is made that severe crushing wounds or injuries may set free certain toxins in the blood, which may cause degeneration of the columns of Goll and Burdach. Whether this is true or not, it is difficult to say. Anyone would be inclined to say that such an association cannot exist. Trauma can never cause tabes.

Another question is whether tabes can be brought out, when it is in a more or less latent state, by trauma. This is an entirely different question. There are many cases given in the literature which would seem to substantiate an affirmative answer.

The first of these traumatic cases were gathered by Klemperer in 1890, consisting of some 30 cases reported in the literature, and four of Klemperer's own, making 34 in all, in which the theory seems to be fairly well established that trauma may give rise to tabes.

Hitzig, in 1894, reported two cases of his own and nine others gathered from Klemperer's 34, making a total of eleven cases in which it was shown that tabes could be caused by trauma. The view taken by Marie is that tabes can only be accentuated by trauma, but never caused by it. He is a staunch believer in the theory that tabes is invariably specific.

The last article, as far as the literature is concerned, is one by Schittenholm, appearing in the *Zeitschrift für Nervenheilkunde* in 1903, in which 17 cases are reported, the original eleven of Hitzig, and six from the Breslau clinic. Of these, 2 were associated with a traumatic neurosis.

I have seen one other case of tabes in a negro, and it too was associated with trauma. That case was undoubtedly one of latent tabes, lighted up by the injury. The patient had marked ptosis, and a lesion of the internal rectus of the same eye, a third nerve nuclear lesion beyond question.

These two cases prompt me to say that trauma can accelerate or bring out tabes which has been more or less latent, but they do not warrant any such conclusion as that tabes can be caused by trauma.

#### NORTH SHORE BRANCH.

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Councillor.....J. P. Houston, 1180 Sheffield ave  
Alternate Councillor.....A. Young, 550 Wilson ave

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West Subdistrict.....R. E. Green, 70 State st  
North Subdistrict.....Bertha E. Bush, 808 Morse ave  
East Subdistrict.....J. A. Patton, 100 State st

Meeting of North Shore Branch held in Ravenswood club house Tuesday evening, October 4, 1904.

The following program was given:

##### Program.

"The Duty of the General Practitioner to the Public."

1. As a Physician, J. Allen Patton.
2. As an Educator, J. P. Houston.
3. As a Financier, W. A. Abbot.
4. As a Politician, G. DeTarnowsky.

On motion the Society adjourned.

George Edwin Baxter,  
Secretary.

The Duty of the Physician to the Public as a Politician.

George DeTarnowsky, M. D.

The duty of the general practitioner to the public as a politician—is to keep out of politics. I use the word politics here in the looser sense, as meaning "the contests of parties for power." It is practically impossible to dissociate politics from party politics in the U. S. today, and it is an undeniable fact that close association with

local party organizations is not as a rule placed to the physicians credit. The community looks askance at the young Doctor who busies himself too openly over the election of his party candidate, for it is seldom that there are issues brought up which would have any direct bearing on the morals or sanitation of the community; or, if there are, both parties are as a rule pledged alike to them, and the war dwindles down, not to one of platform or personality, but to a party war pure and simple. These remarks apply of course to municipal politics. I shall later advance other valid reasons why the American physician is unable to enter State or national politics. I repeat then that the physician who becomes a local politician becomes *ipso-facto* a party politician, and as such loses caste in his community regardless of the motives which have prompted his affiliations.

The physician as a politician may belong to one of three distinct types. Type one is the ward healer who enters the political gutter "for what there is in it" and, who, in the often vain hope of adding to his practice, associates himself with the local boss and does his bidding. This black sheep is a "good fellow," knows every member of the local gang and can call them by their nicknames; should any of them get hurt in a drunken brawl or overheated political discussion, "Doc" is called in to sew him up—his fee for services rendered being—in part at least—doled out to him over the bar, in liquid form. Is he a grafter in the strict sense of the word? No, he probably has never received money for any of his political duties, but free tickets, passes, appointments as examiner for local fraternal lodges, cigars and drinks, come to him as a matter of course. What does he give in return? His "Boss" asks him to work for so-and-so, and "Doc" does the master's bidding. The party nominee is represented by "Doc" as being friendly to physicians and an ardent advocate of improved hygiene and sanitation; one who, if elected, will pave the streets of your ward with good intentions. He never fails to add that "so-and-so is a good friend of mine and I will esteem it a personal favor if you will vote for him and use your influence in his behalf." Between elections, I had almost said drinks, he adds to his income and political pull by "fixing up" leave of absence or pension certificates and attending to the Flotsam and Jetsam of a tough ward. My first experience with "Doc" was while a medical student, and I regret to say I did not "catch on" until I had smoked up my bribe—the first and last I have accepted. "Doc," who had graduated several years ahead of me and located not many miles from my Alma-Mater, met me one day on the street with the heartiest "glad-hand" imaginable and a good cigar which he asked me to smoke "on him," adding that "there were plenty more where these came from." A discourse on local politics soon followed, in the course of which he mentioned Mr. A. as the man to vote for as he was "straight with the party and 'in' with the boys"—whoever the boys might be. "There he is now," he added, as we approached a corner saloon; come along and shake hands with him."



I meekly allowed myself to be presented to the local "Hinky-Dink" along with a Pullman porter and a local Pugilist. All three of us were introduced to "Hinky" as "personal friends of mine sir, who are anxious to vote for you when the time comes." The time never came—for me at least—but I can still taste that cigar. My second experience occurred while serving as interne. A certain member of the police force was brought in suffering from a good old fashioned attack of Delirium Tremens which promptly carried him off. Post-mortem all the evidences of chronic alcoholism were found and a certificate delivered accordingly. I soon had an infuriated family interviewing me to change the findings, in order that they might get a pension from the city. I refused to do so whereupon they got their ward "Doc," who "stood in with the boys," to fix one up in which the cause of death was given as "Chronic Cystitis, the result of a blow on the abdomen received while on duty!" I hunted "Doc" up myself afterward and wormed these details out of him. The policeman's family got a pension and paid handsomely for that certificate. Does it ever pay to go into dirty politics? Has any "Doc" ever carved an honorable name for himself or built up a lucrative practice? I am sure he has not—such black sheep never become family practitioners, because even professional politicians often have a warm spot in their hearts for those at home and will not employ the man who does their dirty medical work for them. What is his future? His friendly and influential Boss is suddenly swept away by some irresistible reform movement or superceded by another of his kind and our erring confrere finds himself deprived of his "soft snaps." All of you who have been reading Lincoln Steffens masterpiece articles on state politics will remember the ultimate fate of "Doc" Ames of Minneapolis. In the words of an old concert hall song:

They soon find their level,  
Then drop like the devil,  
And then they go down, down, down.

The second type of medical politician is the one we are most familiar with in this country and we find him a pleasant contrast to the first. He is rarely an active party politician—in fact he is often classed by old timers as a Mugwump, one who casts his vote for a man or platform or special issue, regardless of the party backing the same. That he rarely seeks or is elected to public office is shown by the fact that our national government can only boast of two senators from our ranks, Drs. L. H. Ball of Delaware and J. H. Gallinger of New Hampshire, and one single representative, Dr. W. G. Hunter of Kentucky. In our state legislature in Illinois, we have one confrere in each house, Dr. J. H. Watson of Woodlawn in the senate and Dr. J. A. Wheeler of Auburn in the lower house. A study of the records of these men brings out the following facts which I wish to impress upon your minds as they bear out some statements of mine which I shall emphasize later. Senator Gallinger and Representative Hunter both graduated in the early fifties and have not been in active practice for

many years. Senator Ball, while he only graduated twenty years ago, is practically devoting his whole time to statesmanship. All of these men, with the exception of Hunter of Kentucky live within a comparatively short distance of the National and State capitals respectively. State representative Wheeler lives in Sangamon county and can reach Springfield in a few minutes. Since reading the paper, I have been informed on the best authority that Dr. Wheeler is not practicing medicine at present, and that for several years he has paid more attention to politics than to his profession. State Senator Watson lives further away but I have been told on good authority that he is not an active practitioner.

Our normal every day physician, having established himself in his community and gained the esteem and confidence of his fellow-citizens, is often, though not often enough, willing to devote part of his spare moments to the betterment of his city, county or state. We may call him a specialized medical politician if you please; we find him on boards of health, drainage commissions, school boards, anti-tubercular crusades and—not to omit our latest public achievement, "first aid to the injured societies." Forty-three physicians in Illinois are connected with the U. S. volunteers as surgeons and may be classed as servants of the public as their duties in time of peace pertain largely to military hygiene. Physicians holding office in Europe are common; they are found in municipal councils all over Great Britain; they are mayors, deputies and senators in France, Italy, Germany and Denmark and, as a rule, they are as favorably known medically as they are in the body politic. Dr. Charles A. L. Reed, of Cincinnati, in a letter to the *Journal of the A. M. A.*, dated Sept. 17, 04, states that there are at present in the French senate no less than forty medical men out of a total of three hundred members. He justly exclaims: "Think what might be accomplished in the way of needed and wholesome legislation in the U. S., if our medical profession were only represented in similar proportion in the two branches of Congress."

The third type of physician is rare in Europe and may be said not to exist in this country. The only notable exception to this statement which I have been able to find, is the case of Benjamin Rush who, after obtaining his medical degree, located in Philadelphia in 1768 and for twenty years was one of the leading spirits in the political and social movements of the day. Rush was a member of congress for Pennsylvania in 1776, signed the declaration of independence and some few years later started the first anti-slavery society in America. He was truly a statesman as well as a medical authority. Senator Pozzi in France, whose splendid work on Gynecology we are all familiar with, is an example of the highest type of the medical man, using the term in its broad generic sense. He has been an earnest hard working statesman for years, besides attending to an enormous private and hospital practice in Paris. Premier Combes, who is also a physician, has been successively member of the



General Council, Mayor of Pons, Senator in 1885, 1894 and 1903, vice-president of the senate, Minister of Public Instruction in 1895-1896 and is now Minister of the Interior and Premier. Virchow was constantly guiding public affairs in Germany. As early as 1848, when only 27 years' old, he so openly and publicly sympathized with the reforming tendencies of the period, that he was obliged to leave Berlin and retire to Wurtzburg. His titanic work on cellular pathology and his contributions to anthropology, ethnology and archaeology did not prevent him from having an active political career. Returning to Berlin in 1856, he became a member of the Prussian lower house in 1862 and was chairman of the finance committee for many years. In 1880 he entered the Reichstag where he became a leader of the opposition and a vigorous antagonist of Bismark. Not satisfied with his duties as a statesman, Virchow, as member of the Berlin municipal council, took a leading part and was largely responsible for the transformation which came over the city. That it has become one of the healthiest cities in the world from being one of the unhealthiest is attributable in great measure to his insistence on the necessity of sanitary reform, and it was his unceasing efforts that secured for its inhabitants the drainage system sewage farms and good water supply, the benefits of which are reflected in the decreased death rate they now enjoy.

Why is all this so? Why do we as a class hold aloof from executive and legislative offices? That such is the case must be looked upon as a distinct loss to the community. It cannot be that we are busier, more rushed than our confreres in Europe, for we have just shown that the best known and busiest physicians there are precisely the ones who have attained greatest prominence in public life. Are we apathetic in politics? To the same extent that the better element throughout the U. S. is, yes, and yet there are today many physicians especially among the younger members of our profession who would gladly take a more active part in public life, were they reasonably certain that in so doing they would not injure their professional career. We are all of us perfectly willing to take a hand in public hygiene, medical practice acts, food commissions, school boards and like matters of medical interest; we are eager to sign petitions or send delegates to interview governors or state politicians when a question of vital interest to us as physicians is up for discussion; many of us show splendid executive ability in medical schools, hospitals and societies devoted to medical subjects; the lobbying and wire-pulling which occur at the annual election of state or national societies prove beyond cavil that physicians may be past masters in the arts of diplomacy and intrigue; but when asked to enter the political arena—to become a politician—we shake our heads. It is unfortunate that the social standing of the American politician should be so much below that of his European brother, for in that fact alone I think lies the secret of our apparent lack of desire to enter politics and aid more personally

in the battle for a better standard of health, education and morals in our community. It has been stated on good authority that a good doctor can only be a good doctor and nothing else; that the ever increasing studies necessitated by the rapid advancement of the Medical Sciences make it impossible for him to attend to public duties. I need only point to the president of our State Board of Health to show that it is possible for a man to carry on a large and lucrative practice, to be, as Dr. Patrick recently said: "an all round A No. 1 practitioner of medicine and at the same time fill the duties of a health officer in a great state with honor and credit to himself and the community." There are two almost unsurmountable obstacles which prevent us from becoming statesmen while in active practice: The location of our State and National capitals with regard to the great medical centers of the country, and the constitution which requires that a member of a legislative body elected from a certain district or state shall be a *bona-fide* resident of said district or state.

Washington, medically speaking, cannot compare with London, Paris or Berlin, and it would be manifestly impossible for a physician to practice in San Francisco and attend congress at the same time. We may even find it impossible to enter state politics for the same reason. In France or England a physician residing permanently in Paris or London may be elected to office from any part of the country. The proposition put to each one of us is this: How can we do the most good to our community? Is it best for the public as well as for ourselves to remain out of active politics and to strictly attend to the moral, mental and physical welfare of our patients, or can we identify ourselves with local or state governing bodies and still retain our honored position of medical advisor and family friend? No man lives more thoroughly in the public eye than the physician; no man is more carefully dissected, examined and weighed by patients, friends, acquaintances and enemies than you or I, gentlemen, and I firmly believe that the laity today, with few exceptions, would place the stamp of disapproval on any of us who entered politics. The public expects us to do our duty as doctors only, and unless we can restrict our public activities to purely medical matters, we are surely going to lose caste. Must we keep from "doing politics?" This question, in my opinion, should receive a most emphatic negative. While it does not seem wise for us, under present conditions, to run for office, our influence in the community should constantly be brought to bear on our patients and friends whenever, irrespective of party politics, the moral or mental uplifting of our governing bodies can be accomplished. In order to do this honestly and logically, we must perforce belong to the ever increasing ranks of independent voters in local politics, for, so long as we continue to discuss local issues from the standpoint of the "Party," so long will our influence be either nil or useless. Let us then be public workers in a quiet way; let us follow the advice of Dr. Ellis of Los Angeles

who says (Jour. A. M. A. May 7, 1904): "No physician is too busy to drop a word here, a request there, a hint with another patient, a suggestion to a friend, as he goes about his days work; and when that days work is accomplished, and the hints and requests and suggestions are considered, he will realize that much has been done" with comparatively little effort.

34 Washington St., Chicago.

### **Duty of the General Practitioner to the Public As a Physician.**

**By Dr. J. Allen Patton.**

The duties of the general practitioner to the public as a physician are many, the chief ones exercised being those relating to hygienic and preventive medicine.

The duties of a physician to his clientele in aiding them to lead moral and upright lives and to rear their children in those same lines are of as much or more importance than any other obligation his profession calls upon him to assume. Many times an opportunity is offered him in this direction and he does not grasp it.

The parents need instruction in their physical and mental relations with each other; guidance in their physical or physiological relations and responsibilities to their children.

The young adults need instruction in many physical and physiological conditions and the children need daily care and watchful supervision. The physician is the only one who is prepared by his professional training to serve as their instructor and therefore this obligation rightly falls upon him. Many members of the profession fall short of the necessary conception of their duties to their patients in these directions. Most individuals have grown up to adult age without the least instruction from their parents or a physician about some of the most important physiological functions and activities of the human organism.

Teaching should begin with the child for the knowledge of life should grow as the child develops from a helpless to a reasoning being. These developing mental and physical powers are in the hands of the parents and family physician to be moulded and nourished in the way they should grow.

Because of the poor preparation many adults have had for the physical and mental training of children the physician will often be called upon to instruct the parents and to guide or aid them in instructing their children. No other individual can possibly occupy the same position in the family life and to its needs as the trusted family physician, hence he is the foundation stone upon which must be erected a better and stronger moral, mental and physical life.

The parents must be reached first, for through them must normal home life be brought about and only through the parents can normal physiologically developed children be reared in civilized surroundings.

Everyone knows the trust that is placed in the family physician and through him in the specialist that may be consulted, hence in every member of the medical profession when he is

giving advice upon matters that deal with the physiological and pathological functions and activities of the body and mind.

Are we as physicians prepared to use our supposed knowledge and our known powers in the ways that will produce the best results in developing natural or normal human beings.

Parents need the physician's advice regarding their sexual life; the effects of the menstrual periods and of pregnancies upon their life together; effects of diseases, mental and physical exhaustion, and many things of the average daily life that furnish topics of thought for the parents and which they often refer to the family physician for his judgment.

Malchow in his book "The Sexual Life" has treated this subject in a way that makes valuable reading for any physician and especially the general practitioner.

Husband and wife are often brought together utterly ignorant of the principles that should govern their relations to each other with respect to their future offspring and all know the marital unhappiness that always results from the unequal sexual mating of man and woman. The family physician must exercise his knowledge of these matters for the sake of the parents and more than all else through the parents for the benefit of their children. Who is better able to judge of the fitness for marriage than the family physician, and he should recognize the unfitness in or before early puberty, should begin his advice to the parents and the child at that time either to correct the physical or mental defect or to aid the parents in rearing the child with a proper understanding of its duties to humanity; that it can best fulfill those duties by not bringing into this life its own kind. Many failures will result but proper, concerted, consistent work in this line by the family physicians will show marked results in a decade or two and more rapidly thereafter.

Who can talk to the mother about her duties to her daughter or to the father of his obligations to his son with more understanding and force than the physician. There is no other individual, no matter what his calling or relation to the parents, that can take up any of these questions as well as the physician, therefore his duties in this direction should be very plain to him. Many parents feel the need of the physician's advice and would gladly avail themselves of it, but because of a faulty training they have a hesitancy about approaching such topics and the physician should seize the opportunity to turn the consultation into such channels that would make it easier for these difficulties and duties of the parents to be considered.

The family physician has a duty to perform during the adolescent period of the children of his clientele that is of more importance for the future well-being and happiness in this life of those children than his careful treatment during any possible form of sickness that may attack them. Many times this duty is not fulfilled by the physician and often it is not even considered by him.

The developments physical, physiological and



mental of the years of puberty are so various and far reaching that each individual requires special study. How many of us received any instruction of value from our parents or family physician and yet most of us have felt the need of it on these matters. Home influences are worth all others in developing proper principles of living and the family physician is an important element in the home life.

Prophylaxis of diseases of all kinds falls to the lot of the physician but in line with right living and especially right sexual living, prophylaxis of venereal diseases is one of the most important for the physician to bear in mind and here is a field that the average physician rarely enters in his family practice.

Physicians have the treatment of the diseased members of their communities as part of their duties but it is much more important for the public to keep healthy persons from becoming diseased than it is to cure the diseased, hence the value of prophylaxis or preventive medicine. Faithful attention to his obligations in these directions by the physician will lead to better physical, mental and moral living.

34 Washington st.

#### DOUGLAS PARK BRANCH OF THE CHICAGO MEDICAL SOCIETY.

Regular meetings are held on the second Monday evening of each month at Gads Hill Settlement; Roby and 22d St. Membership —.

##### Officers.

President.....J. Chase Stubbs, 971 W. 22d st  
Vice-President.....J. F. Chvatal, 1593 W. 22d st  
Secretary.....Clyde D. Pence, 1389 Ogden ave  
Treasurer.....Wm. E. Miller, 1155 S. California ave  
Councillor.....J. A. Clark, 832 W. 21st st

The Douglas Park Branch of the Chicago Medical Society held an informal reception, October 10th at Gads Hill Settlement Hall, and invited the wives of the members to be present.

The features of the evening were readings given by the Misses Moss and Abell; vocal selection rendered by Miss Hardie, Dr. Beebe and Dr. Hardie. Cornet solo, Mrs. Conlon; piano selection, Mrs. Pence. Luncheon was served by Mrs. Martin of Gads Hill and a most enjoyable evening was spent.

"Why do we not have more of these social evenings" was asked by so many present that there is no doubt of the popularity of these informal evenings.

#### SOUTH WESTERN SECTION OF THE CHICAGO MEDICAL SOCIETY.

Regular meetings are held monthly at 540 W. 63d st. Membership 70.

##### Officers.

President.....F. L. Rose, 5420 S. Halsted st  
Vice President.....Wier  
Secretary-Treasurer..C. H. Lovewell, 5500 S. Halsted st.  
Official Reporter, T. C. McGonagle..5504 S. Halsted

At the October meeting of the Southwestern Section of the Chicago Medical Society, Tuesday evening, October 4, a very earnest and interesting paper was read by Prof. Watkins, covering the subject of **gonorrhoea in the female**. Prof. Schmidt also read an instructive and interesting paper on the subject of **gonorrhoea in the male**. There was an attendance of 36 members, and all felt that this was one of the best meetings we have had. The November meeting is to be a clinical meeting and members are requested to bring cases of interest.

#### MANAGEMENT OF HOSPITAL FOR INSANE IS CENSURED.

##### Testimony at Inquest Shows That Attendants at Bartonville Institution Are Incompetent.

Gross negligence and incompetency on the part of attendants of the Bartonville hospital for the incurable insane was the verdict of the coroner's jury in the inquest on the body of Fred Weber held October 14th.

Weber was an imbecile inmate of the institution who, it is declared, was scalded to death in a bathtub a few days ago. The testimony developed that two of the attendants had just come from farms and had secured their jobs through political influence. Neither had the slightest hospital or asylum training. One had been at the asylum three weeks and the other less than two.

Weber was a crying patient, and while bathing cried and moaned, symptoms which the attendants did not understand. The attendants say the water in which Weber bathed was lukewarm, and Dr. Burnham of the asylum, who says death was the result of senile gangrene, testified that the water was milk warm. Dr. Zeller insists the man was scalded to death.

The coroner's jury charged the management of the asylum with gross carelessness and neglect, and condemned it for placing in such responsible positions men with so little experience.

Edward Deans, a patient and attendant, and Fred G. Weller, who administered the baths, are mentioned in the verdict, but no recommendation as to prosecutions is made.

**DR. PETTEY'S RETREAT**

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The Official Organ of The Illinois State Medical Society.

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{ SUBSCRIPTION  
\$3.00 A YEAR.

## A PHANTOM OR MODEL FOR ILLUSTRATING HERNIOTOMY AND SUTURE WORK ON THE ABDOMINAL PARIETES.\*

BY E. WYLLYS ANDREWS, M. D., CHICAGO.

In closing a wound in the abdominal wall, we usually sew the layers separately. This is one of the hardest things to show a class of students, or an audience of physicians, so as to be visible beyond the front row of observers. I have often thought that with cloth laid in successive layers it would be easy to imitate the fascia of the abdominal wall, so as to practice and illustrate the various stitches used, so to say, in a diagrammatic way.

Such arrangement bears the same resemblance to the anatomy of nature that a diagram does to an accurate picture of the organs. It is all the more useful, because different from, and simpler than nature, and also usually because it is larger and coarser. I would disarm criticism on the want of accuracy of my phantom by saying that it is intentionally inaccurate, and hence for my purpose more useful. But, while layers of red flannel, worsted, jersey-cloth, canvas, etc., do not imitate nature except by the help of the imagination, they can be superposed so as to represent the fascia and musculature of the abdominal parietes in a very suggestive way, and we can easily use them for make-believe operations, and get much instruction for ourselves and others with the needle and thread in various styles of closure. With large darning or upholsterers' needles and colored strings, we can put in stitches that are easily seen across a large room. We can show, for instance, how all the layers can be closed in one suture, or

can separately close the "peritoneum," or use a separate line for each fascia, or can illustrate the figure-of-eight or the quill suture. I am willing to confess that I have found some, perhaps you will say childish, pleasure in these make-believe or phantom operations. I am not sure but I have been considerably helped by them to new ideas.

To mention one, there is nothing that will convince one quicker of the value of the imbrication idea, which I have advocated for the past ten years in herniotomy and laparotomy, than this experiment with cloth, because as a matter of fact it is one of the oldest known principles of joining fabrics, where added strength is needed.

This model I have shown in several medical societies and in numerous clinics, and have upon inquiry found that it helped greatly to illustrate the suture methods. In Fig. 4 we see the layers arranged to demonstrate the Bassini operation in its first or deep row of stitches. Fig. 5 shows the second row uniting the external oblique aponeurosis.

Fig. 2 shows the writer's imbrication operation, a plastic method of strengthening the lower abdominal wall by sliding down and implanting a layer of the external oblique.

Fig. 3 shows the second step of this operation, completing the imbrication, and showing the added thickness of wall obtained.

Fig. 1 shows my operation in an anterior method of implantation.

Bergmann and Mikulicz picture this operation, and ascribe it to Girard, of Berne. I published it nearly eight years before the Swiss surgeon. He, however, reports having performed the operation during a considerable number of years before he published it.

Fig. 6 shows how well the ribbed cloth layers of this mannikin lend themselves to other special tricks or wrinkles of the surgical technique. We have here the McArthur autoplasmic suture, formed of a slender

\*Read at the 54th Annual Meeting, May 17, 1904.

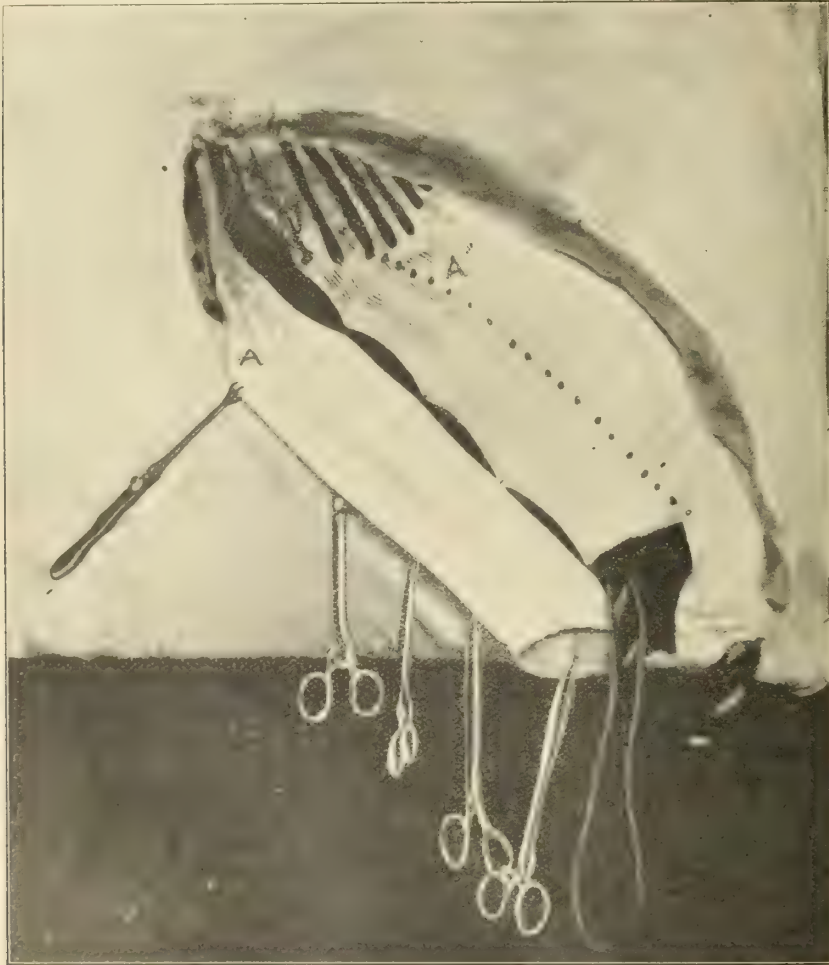
strand of the external oblique aponeurosis, still attached at its upper end and threaded upon needles ready to close the wound.

#### Discussion.

**Dr. Denslow Lewis, of Chicago:** The model exhibited by Dr. Andrews for the purpose of illustrating herniotomy and suturing work on the abdominal parietes appeals to me strongly. I have used since 1888 similar models to illustrate operations upon the perineum and cervix;

and it is gratifying for me to be able to say that my "phantom perineum" and "phantom cervix" are now used in several medical colleges in different parts of the country.

In 1894 I designed a similar model, made of different colored cloths to be used with the manniken to demonstrate Cesarean section and the Porro operation. This "phantom" is described fully in my "Obstetric Clinic" and was made use of for several years at the Chicago Policlinic and Cook County hospitals, with, I



**Fig. 1.** Size about 20x36 inches. Cushion 5 inches thick. Part represented right inguinal region enlarged about 5 or 6 diameters. Outer layer flesh tinted cloth. Next layer cotton wool  $\frac{1}{2}$  inch thick (shown at margin of incision). External oblique represented by ribbed white jersey or sweater fabric running diagonally downward. Internal oblique represented by similar fabric of red color, running obliquely upward and inward. The edge of the rectus and Poupart's ligament are formed by strong seams. "Cord" of colored worsted twisted loosely. Any light fabric can be made to imitate the hernial sac, an inflated inner tube of a bicycle tire is a perfect imitation of the intestine. Ordinarily only the fascial suture work needs demonstrating.

This photograph shows model set to show the Andrews operation (anterior method). The imbrication without displacing the cord. A. Shows the lower segment which will be overlapped to A.

think I can say, much satisfaction. The method as now applied by Dr. Andrews to teaching how to operate for hernia is, to my mind, most valuable for it is an actual demonstration.

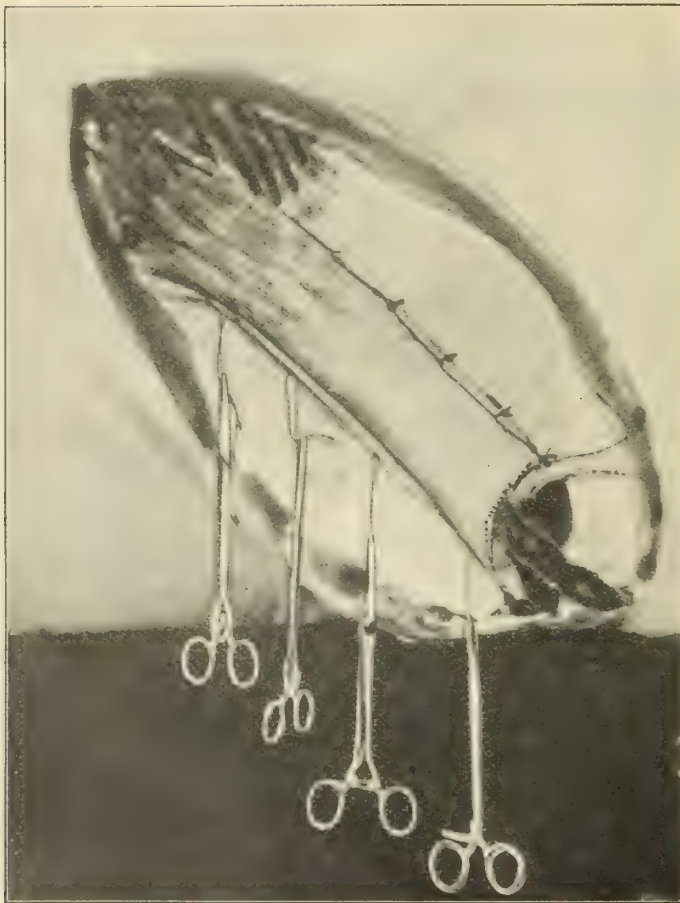
**Dr. Albert Goldspohn**, of Chicago: I feel thankful to Dr. Andrews for devising this model, because it is just exactly the thing I need to demonstrate the technique of my bi-inguinal operation, and with the permission of the members of the Section, I will proceed to do so. (Demonstration.)

**Dr. Andrews** (closing the discussion).—No case of atrophy of the testicle has occurred in my series of herniotomies, nor have I had a fatal result in nearly six hundred cases. Dr. McArthur, Dr. Eisendrath, and a number of other Chicago surgeons have been using the imbrication operation, and we have now a report of over one thousand cases without a death. Of the exact number of recurrences, I do not know.



**Fig. 2.** Andrews Operation with cord between layers. This involves raising the cord as in Bassini operation. Mattress stitches enter behind Poupart's ligament and come out in front of it, drawing down external oblique upper segment as well as deep muscle behind the cord.





**Fig. 3.** Andrews Operation. Cord between overlapped layers. Mattress stitches surround Poupart's ligament. Shows how layers are doubled in thickness and also how the outer suture relieves the deep one of part of its tension.



**Fig. 4.** Model set to teach and practice Bassini operation. "Canal" wide open. Typical deep suture of muscle and conjoined tendon to Poupart's ligament. "Cord" temporarily lifted.



Fig. 5. Bassini Operation. "Cord" replaced. Edge to edge union of external aponeurosis. External "ring" reformed without imbrication.





**Fig. 6.** Model set to show McArthur Autoplastic Suture. Narrow strips cut from aponeurosis used as living suture material.

## BRONCHOSCOPY FOR FOREIGN BODIES IN THE BRONCHIAL TUBES.\*

BY E. FLETCHER INGALS, M. D., CHICAGO.

On the 3rd of last June, I presented to the American Laryngological Association a report on Oesophagoscopy and Bronchoscopy which described the method and instruments thoroughly and gave succinctly the history of the operation. This report will soon be published in the *Journal of the American Medical Association*, therefore, I do not need to go into that phase of the subject. At that time I reported some of my cases and briefly referred to others. This evening I wish to report two recent cases of bronchoscopy, one upper, (that is through the mouth) and the other lower, (that is through a tracheal opening) for the removal of foreign bodies from the farther end of the right bronchial tube. These cases are both interesting and I hope that a valuable lesson may be drawn from their consideration.

Case I. On the 21st of June, 1904, I was asked by Prof. Bevan to see with him at the Presbyterian Hospital, a little patient, (I. P.) that had drawn a coffee bean into the lungs. I found a baby 14 months old who two days before admission had inhaled the foreign body. The accident was attended by the usual symptoms of cough and labored respiration. There was no history of previous disease excepting measles and that had occurred several months previously so that it bore no relation to the accident. The child seemed to suffer from pain at times and at the time I saw her had a pulse of 126, temperature 100.2 and labored respiration 62 per minute. There was frequent irregular hacking cough and the babe appeared pale and exhausted. Upon examining the chest, no dullness was discovered upon either side but the respiratory murmur was much diminished over the right lung, the vesicular sounds being scarcely audible. The child was so small that I did not think it would be practicable to introduce my smallest bronchoscope, which measures 8 m.m. in its external diameter, through the larynx, there-

fore Dr. Bevan and myself decided that it was best to first do a tracheotomy. I once found it impossible because of its size to introduce an intubation tube not more than 5 m.m in diameter into the larynx of a child about the same age. Chloroform was given and the operation done by Dr. Bevan without loss of blood or any untoward symptoms. I then introduced a small bronchoscope and after swabbing out the mucous several times was able to see the coffee bean at the lower end of the right bronchus. This was of a dark color, round in form, and appeared at first like a bronchial tube that was not sufficiently illuminated.

I was impressed in this examination with the contraction and expansion of the bronchial tubes during the respiratory efforts. The main bronchus in expiration would not be more than one-half the diameter that it was in inspiration, a condition that undoubtedly extends throughout all of the smaller bronchi, even in adults; and one I think that may have much to do with the production of some of the physical signs that we obtain in diseases of the lungs and bronchial tubes. This matter has not been thoroughly studied, but it appears to me to throw new light on the cause of the physical signs, especially in pneumonia where the consolidated lung prevents the bronchi from contracting.

As soon as I had located the kernel of coffee, I introduced Killian's tube forceps and grasped it, but at first it broke off; I immediately seized it again and had no difficulty in withdrawing it. There could have been no possible injury to the parts excepting from the mere contact of the swabs and smooth outer surface of the tube and tube forceps and the operation after completion of the tracheotomy did not consume more than ten or fifteen minutes. The tracheal wound was closed by Dr. Bevan and the child returned to the ward, the pulse being at that time 160, temperature 102 and the respirations 52. At one o'clock next morning the pulse was the same, the temperature 102.2, respirations 56. The child appeared to be sinking, but the cause could not be discovered. At 3.30 in the morning it was thought that possibly some swelling had oc-

\*Read before the Chicago Medical Society.

curred about the tracheal wound, therefore it was opened and a tracheotomy tube inserted after which it is stated that the color somewhat improved and the respiration seemed easier. Gradually however, the respiration became more and more difficult. At 5 o'clock in the morning the temperature was found to be 104.2. The child became cyanotic and oxygen was administered until this symptom practically disappeared. About 8 o'clock in the morning gr. 1-120th of strychnia was given but in spite of all that could be done the respiration ceased at 8.05 though the heart still continued to beat for some seconds; afterwards artificial respirations and amyl nitrite were employed but without avail.

Case II. On the 13th of August, Dr. W. J. Calhoun of St. Charles, Illinois, brought in a little patient (E. W. O.) two years of age who had drawn a large grain of corn into the lungs about two months previously. The accident was followed by severe paroxysms of coughing which were persistent for about two weeks; subsequently the cough was somewhat relieved for a time, but severe paroxysms were occurring at night, when I first saw the patient; the child had already lost three pounds in weight but had a fair appetite and good digestion. The pulse was only 90, temperature 98.6, respiration 34. At 2 o'clock in the afternoon we gave the little fellow chloroform and I inserted the bronchoscope through the mouth and larynx but I found a good deal of difficulty in getting it through the glottis, because of the narrowness of the passage. Just before the operation the pulse was 104 and at the end 128. Since the operation in the previous case, I had had made a long slender brass tube which was connected by a rubber tube with a bottle which was exhausted by a pump run by an electric motor. I had made this device because in the case of a young man with a collar button in the lung there had been such a great amount of pus that I was unable to wipe the tubes out fast enough and the operation was greatly delayed by the effort. In the case of this little child I had no difficulty, after passing the glottis, in carrying the bronchoscope down into the right bronchus in the

farther end of which I found the kernel of corn somewhat softened and swollen, measuring 8 m.m. in width by 14 in length and about 6 in thickness. With the aid of the slender aspirator tube, which I used both as a probe and to pump out the mucus, I had no difficulty in getting rid of the secretions. I got a fine illumination by the small No. 1 Chicago Electro-Appliance Co.'s lamp which I had introduced down to within half an inch of the end of the bronchoscope, and could then clearly see the small end of the kernel. I grasped it with the Killian tube forcep, but a part broke off at first, but the next time I succeeded in holding it firmly. The kernel was much too large to bring out through the bronchoscope, therefore, I drew it against the end of the tube and then withdrew the bronchoscope and foreign body at the same time. The time consumed in giving the anaesthetic and the operation was 50 minutes.

The child<sup>\*</sup> recovered from the anaesthetic rapidly, but there was some difficulty of breathing and a little over half an hour later, there was quite a severe paroxysm of cough and some cyanosis which lasted about 10 minutes. Shortly afterward the pulse was found to be 124, temperature normal, respiration 28. Two hours later the child was resting well. During the evening the temperature rose to 100.6 and the pulse to 140, but respiration was only 30. The next morning the pulse to 140, temperature 101, respiration 28. The following day the pulse and respiration became normal. The child was sent home well on the 3rd day after the operation. A solution of adrenaline chloride 1 to 5000 was sprayed into the throat shortly after the operation. Liquid diet was given for the first 24 hours.

These two cases are presented because of their similarity and with a hope of obtaining some suggestions as to the cause of death in the younger patient. We were unable to secure a postmortem. The history as given by the Internes, Dr. C. B. Davis, is strongly suggestive of a broncho-pneumonia, but the fact that small children do not tolerate tracheotomy very well has led me to suspect that the death may have simply been the result of



shock. The question arises whether in similar cases it would be safer to force the bronchoscope through the glottis so as to avoid tracheotomy, or to open the windpipe and do lower bronchoscopy, the latter necessarily being the easier operation. My experience with the two year old child leads me to believe that with younger children it would often be very difficult to introduce a bronchoscope through the larynx.

The use of the aspirating tube which prevented the necessity of swabbing and which shortened considerably the duration of the operation, appears to me to have been distinctly advantageous in the second case. Killian speaks only of one or two deaths from the operation and considers it very safe, though it is not improbable that death has followed in some unreported cases. Although the tracheotomy was done in this little babe without any untoward symptoms at the time, the history of this operation shows that it may be a source of danger. In patients over two years of age, I believe that the upper bronchoscopy would usually be safer although it is considerably more difficult, and it might prolong the whole operation. Killian frequently uses cocaine only, but I have given chloroform in all cases where I have attempted the removal of a foreign body.

#### Discussion.

**Dr. Norval H. Pierce:** Mr. President—I think this is the second successful case that Dr. Ingals has reported, if I am not mistaken. As far as I know, there are very few successful cases of removal of foreign bodies from the bronchial tubes reported in this country. He regards the use of the bronchial tubes as distinctly more dangerous through a tracheotomy opening than through the larynx, not only in young children, but in adults. I have seen Killian use his method in the case of a South American girl, six years of age, who had the whistle of a toy in her right bronchial tube, low down, for something like two months. He made two attempts to remove it. The first attempt lasted an hour and ten minutes; and the second three-quarters of an hour, and although he could see the foreign body very distinctly he was unable to extract it, on account of the swelling that occurred in the bronchial mucous membrane about the foreign body. As he pushed his bronchoscope downward, the mucous membrane, which was very edematous, welled up in front of it, so that when he reached for it with the forceps the mucous membrane got directly in the way of his vision. A third attempt was through an opening in the trachea, and he was I believe

successful in removing it. Broncho-pneumonia, I believe, is the usual cause of death in these cases.

With Killian's modified laryngeal tube, I believe that the bronchoscope or the tracheoscope can be made to enter more readily than with the old style instrument. The lamp illumination, such as we get from the Kirstein lamp, seems to me more practical than the lamp which is introduced directly into the bronchoscope, because we need as much room as possible for the manipulation of our instrument within the field of operation and Killian insists on the importance of ceaselessly guiding our manipulations by sight and warns against the danger of breaking this rule.

For diagnostic purposes, Killian uses only cocaineization, in adults in examining the esophagus for strictures or tumors in its course, and when examining the larynx and trachea for tumors pressure such as we get from struma and from aortic aneurysm; but otherwise he invariably uses general anesthesia combined with thorough local anesthesia. He likewise uses the aspirating tube for removing the mucus.

Dr. Ingals is to be congratulated on the record which he has achieved in removing these two foreign bodies from the bronchial tubes, and we must all agree that direct laryngoscopy, bronchoscopy and tracheoscopy constitute one of the most brilliant advances in the domain of laryngology, (and it belongs to that domain), which has taken place in recent years.

**Dr. J. Holinger:** The use of general anesthesia, increases the death-rate from these operations. Fortunately we need general anesthesia very exceptionally. When we have passed the larynx with the bronchoscope tube, there is not so much irritation, and less coughing. Cocaineization does not need to go beyond the larynx.

To those gentlemen who intend to go to St. Louis to the Fair, I would draw the attention to the beautiful models of trachea and bronchi, with a complete set of Killian's instruments. The guard will give you a demonstration of the use of the models, one standing up, and the other in a horizontal position.

**Dr. Ingals** (closing the discussion): Last June thirty-four cases of bronchoscopy had been reported, 19 of which were successful in removal of foreign bodies from the air passages. It is barely possible that some of these were duplicates, but thirty-four were all that could be found in the literature throughout the world. The sixty cases mentioned by Dr. Pierce, are not Killian's own cases, but sixty cases throughout the world. Killian up to last June had reported eight successful cases.

As to the Kirstein lamp, the difficulty with it is that it does not give sufficient light. I tried this lamp in several of my operations, and although while it illuminated the parts fairly well, it did not begin to illuminate them so well as the small lamp passed down into the bronchoscope, and again, unless the room was dark it was difficult or impossible to see. There is

great objection to a dark room when one is giving a patient chloroform; there is objection, too, in the handling of instruments. Therefore the Kirstein lamp is not quite satisfactory for this operation although a similar lamp that would give about four times the light would be very desirable. With any source of illumination it is usually impossible to see the object at the time it is grasped for the forceps cut off the light when a small bronchoscope is used.

With reference to the remarks made by Dr. Holinger as to the sensitiveness of the trachea below the larynx, it has been my experience to find it very sensitive, so that the patient would cough quickly and keep on coughing when it was touched. Although one may anesthetize it sufficiently with cocaine, I doubt very much whether it would be as safe to use the amount of cocaine necessary as it would be to employ chloroform, especially in a child. In the adult I have used cocaine freely, but I have not dared to use as much in little children.

## THE PRACTICAL VALUE OF BLOOD EXAMINATIONS.\*

BY JAMES B. HERRICK, M. D., CHICAGO.

The programme of this society as it has been planned for the winter includes several papers upon the general subject of diseases of the blood. My remarks tonight are wholly in the way of an introduction to that subject, so that I shall omit entirely details as to technique, etc., and confine myself strictly to the topic of the general value of blood examinations.

Right here let me speak of a few misconceptions regarding blood examinations by the general practitioner, and it is of the blood examinations by the general practitioner and not by the expert or the man who is studying the blood from a purely scientific point of view that I wish to speak. In the first place there seems to be an impression in the minds of some that the instruments necessary for the proper examination of the blood are expensive. This is not true. For the ordinary examination of the blood, instruments are necessary for the estimation of the hemoglobin, the counting of the red and white corpuscles and the proper staining of the blood. The Talquist color test can be obtained for a dollar or a dollar and a half.

The other hemoglobinometers range in price from five or six dollars up to about twenty dollars. A blood counting apparatus can be obtained for ten or twelve dollars. The few stains that are necessary are inexpensive, so that I feel sure that for fifteen or twenty dollars a practicing physician can have the instruments necessary for making all the ordinary blood tests, and for fifty dollars an elaborate outfit can be obtained. I assume, of course, that the doctor is the owner of a microscope.

Another objection that is urged is that the technique demands unusual skill. This is certainly not so. With a week's practice one may acquire the technique necessary for making these examinations. Of course, practice makes perfect. But no one need be deterred from doing this kind of work for fear there is some unusual dexterity required.

In the third place, an objection is sometimes urged by the practicing physician that he will not have the necessary knowledge and training that will enable him correctly to interpret what he sees. Again this is not true. A physician of ordinary intelligence with a little experience is soon able to interpret quite accurately what he sees, in just the same way that with a little training he is able to tell what he sees through the microscope in examining a specimen of urine.

The only objection that can hold against the examination of the blood is that the results are unreliable and of no practical value. This objection is again not true. Let us consider now for a moment what are the practical results. But first let me say that there is occasionally met with a misconception in the opposite direction, namely, that some regard the blood examination as giving us conclusive and positive evidence in a large number of diseases as to the nature of the ailments. Now, as a matter of fact, it is only in a very few diseases that the blood examination alone is to be relied upon in making the diagnosis. We may say, for instance, that in malaria and leukemia, one can look at the specimen of blood and without an examination make a positive diagnosis. Just as one may occasionally in a

\*An Abstract of Remarks made at the meeting of the West Side Branch of the Chicago Medical Society October, 20, 1904.



specimen of urine without seeing the patient be able to declare that the patient is a sufferer from nephritis. But in most other diseases the examination of the blood is only *one* of the methods of examination that should be employed. In other words, it is merely a confirmatory test. But the value of the examination lies in the fact that this confirmation is often the very point that is lacking in the diagnosis. It is the very point that enables us to speak positively regarding the disease.

Let me give a few illustrations and these illustrations are merely to be taken as types and not as covering the entire ground. For instance, if we are attempting to differentiate between a chlorosis, an anemia of a secondary type, and a pernicious anemia, we are helped very materially by the estimation of the hemoglobin. Thus the chlorotic girl may have a percentage of red blood corpuscles of 60 and of hemoglobin of only 30, while if she were suffering from pernicious anemia, the percentage might be reversed, that is the percentage of hemoglobin might be 60 and the red blood corpuscles only 30. Here we have a distinct help in the differential diagnosis of these conditions merely by the estimation of the hemoglobin; and further help by the examination of the stained specimen. We are also by the examination of the blood frequently induced to hunt more carefully for hidden causes of an anemia of a secondary type, such causes for instance, as tuberculosis, carcinoma, an obscure Bright's disease. In our cases of chlorosis and secondary anemia, too, we have in the examination of the blood, the best gauge for determining the effects of our remedies.

Suppose in another case on staining the blood we find numerous myelocytes. We here examine with more care for possible leukemia, or remembering that in an involvement of the bone marrow, as for instance in tumor, myelocytes may be present in the blood, we investigate the case more critically for evidence of neoplasm in the bone. Again if in examining the blood, we find an unusual number of eosinophiles, remembering the recent observation of Brown

and many others, that in cases of trichiniasis eosinophilia is pronounced, we would naturally investigate the condition of the muscles, perhaps by excision of a piece of the muscle to determine as to the existence of this disease; or it would put us upon the track of the possible presence somewhere in the body, as in the intestinal tract, of animal parasites, as for instance the *uncinaria*, or even such parasites as tape-worms. In two cases in the County Hospital within the last year or two, the detection of eosinophilia has attracted attention to the intestinal tract and in one case the disease was found to be due to *uncinaria* and in the other to the presence of strongyloids in the intestine.

I may refer here also to the value of the examination of the blood in lead poisoning. As is known, Grawitz has dwelt particularly upon the granular degeneration in the red blood corpuscles in some severe anemias but particularly in cases of lead poisoning and the detection of these granules often gives material aid in diagnosis.

Of the value of ordinary leucocytosis, that is the increase in the polymorphonuclear leucocytes, I need scarcely speak because this is so well known. In a certain group of infections it is known that the leucocytes are not as a rule increased, while in others an increase is the rule. Thus in typhoid, malaria and tuberculosis an increase in the leucocytes is not met with, while in other diseases, particularly diseases like pneumonia, or infections with ordinary pus organisms, leucocytosis is the rule. How often we are confronted with the question as to whether a given case is typhoid or pneumonia, malaria or ulcerative endocarditis, etc., and here the balance often turns in favor of the one diagnosis or the other because of definite and positive findings as to the number of leucocytes in the blood. One must, however, not depend too absolutely upon leucocytosis in this group of cases because there are exceptions to the rule. For instance in perforation of the intestine, as in typhoid or an appendicitis, the rule is that the leucocytes increase; but in some cases, even the most virulent, perhaps I should say in the most virulent,



there may be no tendency on the part of the body to react and leucocytosis is absent.

We must then look at the blood as one organ or tissue that is to be examined, but by no means to the exclusion of other organs. In other words, we should examine the blood in the same way we examine the heart or lungs or temperature, and we shall often be rewarded by finding the very point that is lacking in order to enable us to reach a definite conclusion.

There are certain other color reactions in the blood that may be mentioned, though they are of comparatively minor importance, such for instance as iodophilia, Bremer's color reaction in diabetic blood, etc.

While what I have referred to includes what is commonly meant by the examination of the blood, we must not forget that the blood permits of examination in many other respects, some of which are of great importance. Thus we know the examination of the blood for bacteria is oftentimes of great help, and as has been lately shown, it often enables us to make an extremely early and positive diagnosis in cases of typhoid or pneumonia. The serum reaction or the Widal test must also be looked upon as showing the value of the examination of the blood, and while hemolytic examinations are not yet of much practical importance in medicine, still in certain diseases as for instance uremia, changes in the hemolytic properties of the blood have been noticed and it is possible that in the future they may be of great help in diagnosis, and in giving us a clew to proper therapy. Then a study of cryoscopy and of electrolytic conductivity, while not as yet of very general application is in a limited number of cases of some value. Of theoretic interest and in the hands of chemical experts of some practical interest also, is the examination of the blood chemically, the determination of the amount of nitrogen, sugar, fat, etc., in the blood.

If one looks at the subject from a broad point of view, one will, I believe, conclude that while some of these blood examinations, must of necessity be confined to experts and laboratories, there are

many of them that do not require expensive instruments and unusual skill in technique, nor an extraordinary amount of knowledge for their correct interpretation and that these are of great value to the general practitioner. In fact no one should feel that he is practicing medicine as he should, who does not make the examination of the blood in the same routine way that he makes an examination of the urine or of the sputum.

I am particularly pleased that the subject of diseases of the blood has been taken up for the coming winter and I am sure the society will find the evenings spent on this topic not only extremely interesting but very profitable.

#### IMMEDIATE ABDOMINAL SECTION.\*

BY DENSLOW LEWIS, M. D., CHICAGO.

I concur in the opinion, rather freely expressed in certain quarters, that the multiplicity of hospitals in our smaller cities and the superficial familiarity with surgical procedures acquired by the general practitioner who may spend his vacation at one of our post-graduate schools not infrequently result in the performance of an abdominal section by a man who is imperfectly qualified. I deprecate reckless operating by the inexperienced. So many skilled operators are now available in every section of the country that the practitioner is false to the trust reposed in him by his patient if most major operations of election are not performed by the duly qualified alone.

Conceding all this it must be acknowledged that much of the talk that one hears about "proper surroundings," "a well appointed hospital," "competent assistants," as well as many of the methods in use by some teachers in post-graduate schools foster the idea that there is an attempt at self-advertisement rather than an honest and earnest effort to teach the practitioner-student to operate for himself.

The essentials of asepsis are simple and easily applied everywhere. In an emergency the abdominal wall can be scrubbed with hot soap suds for a few minutes and wiped dry

\*Read at the 54th Annual Meeting, May 17, 1904.

with a sterile towel. Then there is another washing with alcohol by means of a large piece of gauze, and still another with a bichloride solution. The disinfection of the operator's hands and forearms can be effected in the same manner, the procedure constituting a method in use by some of the most experienced operators of the world whose results are all that could be asked. The technique of abdominal section is also simple and if properly carried out under aseptic conditions is practically devoid of danger.\* The incision is preferably in the linea alba but wherever made bleeding vessels should be caught with forceps and often ligated with fine catgut so that all hemorrhage is controlled as the incision is extended. The bleeding vessel in each instance should be seized alone with as little of the adjacent tissue as possible. I have opened and closed the abdomen at least five hundred times without the use of hemostatic measures of any kind except forcible compression by gauze sponges and through and through sutures. I do not now favor this procedure. I believe it to be the part of wisdom to save every drop of blood for no one can tell how much may be lost accidentally toward the close of the operation nor can it be denied that every minute blood clot in the abdominal wound is an additional factor of importance as a potential nidus of infection. I also believe it to be advisable to secure accurate coaptation of the several structures of the abdominal wall so that a true *restitutio ad integrum* may really occur. This is only possible by actually bringing together by suture the different tissues so that peritoneum may be apposed to peritoneum, aponeurosis may be reunited to aponeurosis, the continuity of the musculature may be restored, the superficial fascia may be brought together and finally the cut edges of the skin may be accurately apposed without undue tension. For this purpose I favor the use of sterile catgut which is now obtainable and the separate approximation, preferably by individual suture, of the different tissues which constitute the abdominal wall. I confess I have not always conformed to this theory. Some fifteen years ago I removed a large fibroid in the Presbyterian

Hospital of Chicago and at the autopsy I found pus along the continuous suture which united the peritoneal incision. The very means adopted as a precaution to secure additional safety was a factor in the fatal result. I believe, however, that today reliable catgut is obtainable and I prefer its use in all abdominal work. When the operator prepares his own catgut I recommend immersion in a 1 to 1,000 watery solution of bichloride of mercury for six to eight hours and subsequent immersion for twenty-four hours in a similar 1 to 2,000 solution. The catgut should then be placed in absolute alcohol to which a little glycerine has been added and in this solution it should remain at least a month before being used. As catgut is manufactured today it is certainly more convenient to keep on hand the sterilized gut hermetically sealed in its tube which can be broken at the time of operation.

I now invite your attention to the consideration of those conditions where, it would seem, the best interests of the patient are conserved by an immediate abdominal section even by those of limited experience, who make no pretensions to a knowledge of surgical procedures. The time has come when no practitioner can with justice remain absolutely in ignorance. Every medical man and woman should know how to use a Murphy button and how to sew up an intestine. The supply of dogs and cats in every community is adequate to any demand and a needle holder and a few intestinal needles are easily obtainable. No one can tell when a human life may depend on the practitioner's ability to do a little scientific sewing. It is simple to reunite the muscular coat and to close the peritoneum by a Lembert suture but the value to the practitioner of one preliminary experiment on the dog is well-nigh incalculable. The Murphy button is easily adjusted, but it can be done wonderfully better if there has been one trial on an animal.

The proposition may be safely advanced today that in every case of gunshot, knife or other traumatism of the abdominal wall exact knowledge of the actual condition is imperative. The real extent of the injury

inflicted can never be accurately determined without proper examination. There is no longer fear that in the event of a prosecution the claim will be made that death is due to the operation rather than the injury. There is no longer need of the hydrogen gas test to demonstrate intestinal integrity. Unless the injury is superficial, the wound of entrance should at once be enlarged sufficiently to ascertain if the abdominal cavity has been entered. Where there is no penetration it may suffice to cleanse the flesh wound and allow it to heal by granulation. When penetration has taken place, the abdominal contents must be examined systematically to determine the existence and extent of every traumatism.

In such an examination it is usually advisable to make a median incision long enough to permit complete exploration of all abdominal or pelvic viscera that may be injured<sup>1</sup>. Bleeding from the vessels of mesentery or omentum can be controlled by ligature and intestinal perforations can be closed. For this purpose the muscular coats can conveniently be brought together by interrupted sutures while the peritoneal surfaces are reunited by a continuous Lembert or other suture which will approximate a relatively large amount of peritoneum. This is the essential factor in intestinal work. The peritoneal surfaces become agglutinated within a few hours and preserve the continuity of the intestine. If traumatism of the omentum is excessive the injured part may often be cut away with advantage. Here, however, the cut edges must be covered with peritoneum for it is, in my judgement, of first importance in all abdominal work that no raw surfaces be left to form adhesions which may predispose to ileus. It is most desirable in every case that, when all is done, nothing but peritoneum shall be apposed to peritoneum within the peritoneal cavity. All intestinal perforations must be found and closed and if any portion of the intestinal tract is the seat of multiple perforation the bowel must be resected. For that purpose the Murphy button is most admirably adapted both by reason of the ease of its applica-

tion as well as by the well-known good results that have followed its use.

It must be admitted, as Harris has recently explained<sup>2</sup>, that unless the abdominal wound is large enough to permit a view of a visceral perforation or other injury, or to take cognizance of the escape of bile or intestinal contents, the only two symptoms which show a definite injury are hematuria, which indicates a traumatism of the urinary tract, and hematemesis, which is evidence of a wounding of the stomach. I remember one case of gunshot wound seen in the practice of the late Dr. Hoadley the fourth of July some thirteen years ago when at the operation, which was performed too late, there were found fourteen perforations and the abdominal cavity was full of blood. And yet at the time of operation, which was some fifteen hours after the receipt of the injury, the pulse was full, strong and regular. It is a mistake to think that no internal hemorrhage is taking place unless there is shock, rapid pulse, cold clammy skin and other characteristic symptoms. As soon as penetration is recognized there should be an immediate abdominal section without regard to symptoms or the patient's condition.

Only very general directions will be attempted in this connection regarding the treatment of perforating wounds of the abdominal and pelvic viscera. As a rule all wounds should be closed by suture whenever possible and the peritoneum should be sewed over all by a Lembert or other sero-serous suture. In this manner the effort will be made in the case of the hollow viscera. When the liver, spleen or pancreas is injured it may be possible to catch and ligate the bleeding vessels or to control the hemorrhage by ligatures, which include a variable portion of the tissue of the organ. In other cases we resort to gauze packing.

Drainage should be the rule—almost the invariable rule. The hollow viscera, as Tiffany has pointed out<sup>3</sup>, contain more or less gas, and any quantity of infecting material. Where there is perforation there is danger of contamination, but there is also danger to the peritoneum by too thorough sponging



or douching. The part of wisdom in case of the escape of much fecal matter or stomach contents consists in as complete a removal as possible of all visceral contents, with the minimum amount of irritation to the peritoneal serous surfaces. If the toilet is incomplete, if the perforations are multiple or the traumatism extensive—indeed it is safe to say in nearly every case of injury to the abdominal or pelvic viscera—statistics show that the use of a few cigarette or Mikulicz drains for perhaps forty-eight hours is preferable to immediate closure of the abdominal wound. The distance from the perforation or other injury to the surface should be as short as possible. Additional openings should be made, if necessary, through the abdominal wall in a convenient location to avoid a long or tortuous channel.

In the consideration of abdominal injuries where there is no penetration—injuries due to falls, blows, kicks or to lifting, jumping, straining, or other forms of violence—direct or indirect—it is to be remarked that the treatment should be determined not alone by the conditions of the injury as they are apparent—but also, and perhaps especially, by the recognition of possible sequelae or complications of a serious character which statistical study shows are often to be expected. It is impossible to generalize here, but it must be acknowledged that often the extent of the injury cannot be determined without an abdominal section. I venture the assertion that traumatism sufficient to fracture pelvic bones or to cause extreme shock, acute anaemia, rapid pulse or other untoward symptoms is likely to have produced some serious internal injury which must be sought for<sup>4</sup>. If none is found, it cannot be said that an abdominal section, as performed today, will have added materially to the risk.

In reference to obstetric practice, I beg to state that it was my privilege some two years ago to present a paper by invitation to the Medical Society of the State of New York in which I considered the traumatisms of pregnancy<sup>5</sup>. In the collection of cases during thirteen years, for the preparation of that paper, it was most interesting to observe how

frequently, even after an injury which, at the time of infliction, appeared trivial, there resulted later, severe hemorrhage, extensive suppuration or a fatal outcome. I beg to refer to my views as expressed on that occasion for the consideration of rupture of the uterus, and other accidents of pregnancy which require immediate operative attention. I must, however, in this connection insist on the performance of Cesarean section in many instances where the woman is otherwise left to die.

The technic is simple—especially Olshausen's—and, as I had the honor to explain at the November meeting of the Bureau County Medical Society last fall<sup>6</sup>, there is, in my judgement, no longer an excuse for a persistence in futile attempts at delivery in cases where the birth of a living and viable child is improbable, or where there is danger to the mother. Cesarean section must be regarded by every practitioner as a legitimate operation of emergency and must be undertaken as readily as any other emergency operation. During the puerperium there may also occur complications requiring abdominal section. My views on this subject are expressed in the address on surgery which I had the honor of delivering at the Cairo meeting of this society<sup>7</sup>, and my recommendations in case of criminal abortion have been often repeated<sup>8</sup>.

The rupture of an ectopic gestation means hemorrhage and I think I can say that today all agree that rational treatment consists in its control as Bernutz and Goupil pointed out many years ago<sup>9</sup>. I do not mean that every case demands immediate operation but I insist that every case shall be recognized and that undue loss of blood must be prevented even if abdominal section is performed to permit ligation of the bleeding vessels. I appreciate the necessity of alertness to the possibility of this accident by the recent death of the cook in my own family. The woman, some forty years of age, had been in our employ for years and was a model servant in every way. While I was at luncheon one day she fell suddenly on the kitchen floor. When I saw her, a few minutes afterwards,

she had seated herself in a chair and complained of slight abdominal pain. She drank a little water and unassisted walked up two flights of stairs to her room. I saw her again within ten minutes. She was lying dressed upon her bed and said she felt better. Her pulse was full, strong and regular and pressure on the abdomen through her clothes elicited no tenderness. I was told it was not the time of her menstruation. She said she thought she had overworked so I advised her to stay in bed till I could see her again when I came home to dinner. She complained of no pain now so I left her. Two hours afterwards when I was holding my usual clinic at the County Hospital word was brought to me that she was dead. The autopsy, conducted the next day by the Coroner's physician in the presence of Dr. W. A. Evans and others, showed much blood in the abdominal cavity and a ruptured tubal pregnancy of some six weeks. A single ligature would have saved this woman's life. Had the possibility of pregnancy been taken into account, the true condition would have undoubtedly been recognized and an immediate abdominal section would have prevented the fatal result.

Aside from the accidents of pregnancy and the injuries to which all are liable there are many diseases and complications and sequelae of diseased conditions which demand surgical intervention or the patient dies. I have recently seen a case of this character which was particularly sad. The patient was a retired doctor and the father of a doctor. When I saw him the third day of his illness my diagnosis was appendicitis and my advice was an immediate operation which was refused. I noticed the distension of the abdomen and above all its rigidity and after some parley I told the patient frankly that in my opinion he had not thirty-six hours to live unless the operation was performed. His son begged him to submit but the patient asserted that in his younger days he had treated successfully many cases of this character and he preferred to die rather than undergo an operation. Thirty-four hours afterwards he died and at the autopsy, conducted the next

day by Dr. W. A. Evans a gangrenous appendix was found which might easily have been removed.

Now I shall not at this time go into an extended discussion of the treatment of appendicitis. I do not believe that every patient who has pain in the right iliac region needs the knife. I know how much benefit is to be derived from high colonic flushing, thorough evacuation, lavage and Ochsner's starvation method. At the same time it must be admitted that gangrene is often present when the symptoms are not severe, and that foul pus may accumulate about the intestines when fever subsides and the general condition is apparently good. I see but few cases that I do not operate and while I admit that I have not always been correct in the diagnosis, I can also say that I have never yet operated without finding some pathologic condition that warranted surgical intervention. I will also confess that on several occasions I have found appendicitis that I did not suspect." In attempting to give general advice on this subject perhaps it is well to emphasize the importance of marked rigidity and any approach to extreme shock. These symptoms in connection with the usual history suggest gangrene, and if they persist unduly and the general condition of the patient does not improve would in most cases indicate operative interference. In cases where an abscess is recognized there can be no question about the advisability of an operation. Here, however, it is often the part of wisdom to open and provide drainage and to do nothing more at the time. To be sure a hernia may result but that is of small consequence in comparison with the danger of infecting the general peritoneal cavity by injudicious manipulation.

Abscess elsewhere within the pelvis or abdomen may necessitate operative measures or pus may be discovered where some other condition—perhaps obstruction of the bowels—induces us to operate. For our comfort it is well to remember that in an old pyosalpinx the pus is often no longer dangerous and rupture is not a serious mishap. Abscesses within the pelvis, when discovered by ab-

dominal section, especially if adhesions are firm and numerous, may often be drained advantageously from the vagina, and sometimes counter-drainage is of value<sup>11</sup>. In many instances the safest procedure is to stitch the wall of the abscess cavity to the edges of the abdominal wound and thus provide drainage. Abscesses that form between kinks of intestine in the course of peritonitis will probably be best treated by a Mikulicz drain.

At times irrigation is advisable—even continuous irrigation—perhaps in the Fowler position, which consists in the elevation of the head of the bed twelve to fifteen inches from the horizontal<sup>12</sup>. It is impossible to generalize, still I confess to an increasing partiality to provide adequate drainage where there is pus, toxins, or debris to be drained away, and I believe in such cases we will all make use of irrigation more often and more systematically than we have done in the past. I cannot believe with Olshausen<sup>13</sup> that drainage is nearly always injudicious or inadvisable. A hot salt solution can, in my judgement, advantageously replace septic matter in contact with peritoneal surfaces and its value to control inaccessible hemorrhage as well as to combat the effects of a dangerous loss of blood can be made available by continuous irrigation in addition, when necessary, to its administration by the rectum or by the intravenous or subcutaneous route<sup>14</sup>. When severe diffuse septic peritonitis exists, death is almost certain. I believe in the future it will more and more seem advisable to make a sufficient number of openings in the abdominal wall, so that thorough and continuous irrigation may be instituted. Indeed, even in cases when the abdomen is closed, a pint or more of hot saline solution left in the abdominal cavity has been often attended in my practice with the happiest results.

Obstruction of the bowels is, I am convinced, too often a cause of death. We have much to learn in connection with this complication of many conditions and it is often possible, I am sure, for a timely operation to prove life-saving. I was asked a few

months ago to operate on a case of Dr. C. P. Stringfield's. I arranged to do so but five minutes before I entered the hospital the patient died. At the autopsy which I conducted the same evening in the presence of Drs. Stringfield and Watson the small intestine was found kinked and adherent to a right pyosalpinx. There had been apparently mild peritonitis—non-puerperal—and the first untoward symptom was stercoraceous vomiting which persisted twenty-four hours before the patient died.

How shall we recognize obstruction of the bowels, or rather what symptoms indicate the advisability or necessity of an immediate abdominal section? It may be acknowledged at once that we should operate very much more frequently than we do. The operation is more likely to be of benefit the earlier it is performed. If we wait for stercoraceous vomiting or for evidences of peritonitis we may have waited too long. Be the cause of the obstruction fecal impaction, volvulus, intussusception, constriction of the bowel by bands or adhesions, the strangulation of an internal hernia, occlusion of the caliber of the gut by tumors within or without the intestine, or the slipping of a knuckle of intestine through a slit in the omentum or mesentery, the ultimate result is the same. Expectancy is a poor make-shift for rational treatment, and the danger of delay is infinitely greater than the danger of an aseptic abdominal section which, in many instances, will alone permit the establishment of a positive diagnosis, at the same time that it allows the only proper treatment. In determining the time to operate, I suggest the advisability of operating in every case unless there is good reason why we should not. And then I would also suggest the advisability of operating when in doubt.

Gastric and duodenal ulcer are more frequent than commonly supposed. Fenwick found in 678 autopsies of gastric ulcer that perforation had occurred in 153 cases, or 23 per cent<sup>15</sup>. Premonitory symptoms are usually present—the ordinary symptoms of indigestion more or less pronounced—but in a good proportion of the recorded cases all



symptoms are lacking and the patient may suddenly scream, fall to the floor, soon become unconscious and die in a few hours. If the perforation be near the pylorus or in the duodenum the stomach contents may flow into the right kidney pouch and finally into the right iliac fossa, which accounts for the fact, as MacLaren has recently explained<sup>17</sup>, that many of these cases are diagnosed as appendicitis. Moyihan mentions fifty-one perforating duodenal ulcers; in many of these cases a mistaken diagnosis of appendicitis had been made. Dangerous hemorrhage from the stomach may also occur without perforation. There may be vomiting of large quantities of blood, acute anemia, quick and progressively weak pulse, sighing respiration and great and increasing pallor. When these symptoms occur there should be no delay. The certainty of diagnosis in most cases is impossible even by the most experienced, and I heartily applaud the sentiment of C. B. Keetley who asserts<sup>19</sup> that any physician who in the face of these symptoms wastes valuable time in the attempt to make an accurate diagnosis is almost criminally responsible for the death which is sure to follow.

The abdomen should be opened at once and the source of the bleeding located, even if evisceration is necessary. The incision in the stomach may be made parallel with the greater curvature, about four inches in length, through the anterior wall but if the ulcer is located on the posterior wall it may be reached through an opening in the mesocolon after lifting up the omentum and transverse colon. The ulcerating surface should be excised and the incision closed with two or three rows of sutures. In this connection no detailed statement can be made which will refer to the management of complications that may be encountered. Much will have been done if the dangerous hemorrhage is controlled for, at all events, immediate death is averted. The subsequent treatment will vary but in many instances the need of drainage will be apparent.

Other conditions require consideration in this connection. The liver, pancreas or urinary bladder may be ruptured; the spleen,

common bile duct or kidney may be torn, ovarian cysts may become twisted, gall-stones or an enterolith may cause obstruction or rupture of the intestine; suppuration of the gall-bladder may occur during typhoid fever or following labor. I maintain that the clinical history of many of these cases demonstrates conclusively the value of an early operation. I submit that a reference to medical literature will show to what an extent a mistaken or imperfect diagnosis has contributed to a fatal result in cases that could have been saved by a timely abdominal section.

Polakoff<sup>20</sup> relates a case of rupture of the liver in a man, aged 22, who was seized with an epileptic fit during which he fell out of bed. The convulsions ceased and he fell asleep. On awakening he complained of intense pain about the right side which was ascribed to the pulmonary inflammation (patient had croupous pneumonia), and accordingly on the next morning he was dry-cupped. A few hours later he died with symptoms of acute anemia. At the post-mortem the abdominal cavity was found to contain about five pints of serum, while the right side was occupied by large blood clots. The right lobe of the liver was torn across, the rent, which measured 6 cm. long by 2 deep, running parallel to and about 5 cm. from the right edge, and involving the peritoneal coat.

Witthaur<sup>21</sup> reports a case of perforated gastric ulcer in a man, aged 47, who was subject to epigastric pain for several years. He continued his occupation till six days before coming under observation. He then complained of pain in epigastrium; slight dullness at bases of lungs, with feeble breath sounds; abdomen distended; no tenderness. Diagnosis: Cancer of stomach. Three days later dyspnea with rise of temperature; increase in dullness at right base. These signs increased and death ensued three days later. Necropsy showed perforated gastric ulcer, with subdiaphragmatic abscess and right pleural effusion. The same author reports a second case in a woman, aged 25, who also suffered from epigastric pain for several years. Finally, she experienced sudden abdominal pain while lifting a heavy weight.

Three days later slight rise in temperature; pain increased. Exploration with needle in eleven places gave no result. Fourteen days later stinking pus found in left pleura—too late to operate. Patient died in a few hours. Necropsy showed perforated gastric ulcer with subdiaphragmatic abscess.

N. T. Mentin<sup>22</sup>, of Warsaw, reports an intestinal concretion discovered post-mortem in the cecum of a woman who had been suffering from chronic intestinal catarrh, for which she had been treated by the internal administration of subnitrate of bismuth. The concretion was 1 cm. long and chemical analysis showed it to be composed of 85% of subnitrate of bismuth.

Bazancón<sup>23</sup> reports a fatal case of hepatic abscess which during life had been diagnosed as cancer. Several ulcerations were found in the cecum, to which fact probably the hepatic abscess was attributable.

Regaud<sup>24</sup> reports a liver abscess, the diagnosis of which remained doubtful during life, even exploratory puncture giving negative result. Post-mortem, it was found that the whole right lobe was transformed into a purulent cavity containing about 1,200 grams of very thick pus.

J. M. Byron<sup>25</sup> reports a liver abscess in which the diagnosis of empyema was made. An opening was made on the right side at the usual point and some pus withdrawn. The man died and at the post-mortem nothing was found in the pleural cavities, but in the posterior and upper part of the right lobe of the liver there was a very large abscess cavity, which communicated with the operation wound.

J. C. Pegram<sup>26</sup> reports two cases of perforating duodenal ulcer with subphrenic abscess. Case one was diagnosticated intestinal strangulation. Operation disclosed perforated duodenal ulcer admitting the end of the forefinger, and lying on the anterior wall near the pylorus. There was a subphrenic abscess holding at least two quarts of fluid. No attempt was made to close the ulcer, but instead it was walled off with gauze. The man died thirty-six hours later of general peritonitis. The other case, fatal without

operation, presented the symptoms of perforative peritonitis. An opening about 1 cm. in diameter occupied the upper anterior part of the duodenum, almost touching the pyloric orifice. Between the liver and diaphragm was a thick purulent collection.

Mester<sup>27</sup> reports a case of aneurysm of the hepatic artery occurring in a man who had been kicked in the abdomen by a horse. This had been followed by pain in the hypochondrium, intermittent jaundice, vomiting, and the passage of fresh or altered blood by the rectum. The patient died, and at the autopsy a false aneurysm of the right branch of the hepatic artery was found in the liver. It communicated with one of the hepatic ducts. He has collected nineteen cases from literature, which showed that the diagnosis is never made during life, the condition being mistaken for ulcer of the duodenum or for gall stones.

Havas<sup>28</sup> reports a case illustrating the fact that a normal bladder may rupture under the stress of acute complete retention of urine. A previously healthy laborer, aged 55, had two rigors on Feb. 13th, since which date he passed neither urine, feces, nor flatus. On the 15th and 16th the patient himself applied hot fomentations to the abdomen; on the 16th three surgeons attempted unsuccessfully to pass the catheter. On the 17th he was admitted to the hospital, with symptoms of peritonitis. There was a prominence in the region of the bladder, but tympanitic resonance over it, except for three fingerbreaths above the symphysis. A catheter was passed without difficulty, but no urine obtained. Post-mortem, urine was found in the peritoneal cavity. The renal pelves and the ureters were normal. On the posterior vesical wall there was a vertical laceration, over an inch in length, extending through the peritoneal coat. On the anterior wall of the prostate there was a gutter-like tear, covered with coagulum, which was directly continuous with a perforation of the membranous urethra, and was evidently a false passage made in the attempts at catheterism. The false passage was not connected with the rupture, since symptoms of peritonitis preceded the catheterism. The hyper-

trophied prostate appeared to be the cause of the retention.

Högarstedt<sup>29</sup> writes of those rare cases in which symptoms of the wound of the bladder do not develop for several days after the injury. In his case the patient, three days after a fall, suddenly experienced, in endeavoring to urinate, agonizing cutting pain in the region of the bladder, and was unable to micturate. The catheter withdrew a pint of urine containing many red blood corpuscles. After this the patient was absolutely unable to pass urine spontaneously, and seven days from the development of the first bladder symptom the patient died of peritonitis. This shows the importance of examining the urine for blood immediately following traumatism.

Hulke<sup>30</sup> reports difficulty of diagnosis of ruptured bladder in a man, aged 33, who was butted sharply in the abdomen, and immediately felt great pain. He had passed urine two hours previously. *Résonant* abdomen, signs of shock, but micturition impossible. Catheter withdrew urine slightly tinged with blood on several occasions. The shock seemed to have passed off, and no rent was found by the catheter. The next day pain increased; the withdrawn urine was offensive; some vomiting. The following day symptoms of peritonitis appeared; laparotomy was performed. A rent, 2½ inches long, was found in the posterior wall of the bladder. The operation lasted two hours. The patient succumbed eighteen hours after. Autopsy showed peritonitis, but the suture of the bladder was proved to be water-tight.

Sieur<sup>31</sup> shows that the mortality from traumatic rupture of the bladder for a period of fifteen years (1879-1894) had been reduced from 90 to 54 per cent. This decrease was due to early operative interference. The two forms of rupture, the intraperitoneal and the extraperitoneal, have a different death rate. Thus, of 34 intraperitoneal ruptures, 14 recovered and 20 died; of 18 extraperitoneal ruptures, 10 recovered and 8 died. Sieur regards the following symptoms as the most important signs of intraperitoneal rupture of the bladder. A peculiar pain felt at the time of the injury, chill-

ing of the surface of the body, which persists for some time, an urgent desire to urinate, which the patient cannot satisfy, the absence of any vesical swelling above the pubes, the absence of urine in the bladder, or its presence in small quantity.

E. Hurry Fenwick<sup>32</sup> says that all successful cases of intraperitoneal rupture of the bladder have been operated upon within twenty-seven hours of the injury. The diagnosis is established upon the following data: History of a full bladder before and evidence of an empty bladder after receipt of the injury; the possible jerking passage of the eye of the catheter into the peritoneum through the rent, and the sudden withdrawal of bloody fluid. The point of the catheter being felt with undue distinctness through the abdominal wall. Treat the bladder wound with accurate Lembert sutures of fine carbolized Chinese silk.

Battle<sup>33</sup> records a case in a man, aged 40, who walked to the hospital three hours after having fallen fifteen feet. Moderate shock. Fractured tenth left rib. On second day, signs of internal hemorrhage; four pints of saline infused, with much benefit. Laparotomy; 75 ounces of blood clot removed. Spleen torn and its chief vessels were tied. Peritoneum irrigated; five pints of saline infused, with great benefit. Did well for two days; then localized peritonitis, and death on sixth day.

Leith<sup>34</sup> reports cases of rupture of the pancreas. His first group includes those in which a fatal issue followed early upon injury; the symptoms were shock and collapse, and in no case did they point to the pancreas as the main seat of lesion. The absence of external lesions of the abdomen is important, and not a little surprising. Diagnosis is impossible without laparotomy; therefore, treatment must be expectant or founded on the exploratory laparotomy. In case the latter operation has been performed, hemorrhage may be arrested by pressure, and the ruptured ends brought close together by comparatively superficial sutures passing through little more than the peritoneal covering of the gland. The milder cases of pancreatic rupture may recover. Autopsies prove that



this result may occur. After injury received in the epigastric region there may follow after a considerable interval of time a cyst in this region. The large proportion of pancreatic cysts are held to be of traumatic origin, and a table of seventeen such is given. The earliest tumor appeared ten days after injury; the latest eight years.

Battle<sup>35</sup> reports the case of a boy, aged six months, who had been run over by a cab. At first there were no definite signs of visceral injury; by the seventh day he was deeply jaundiced, with symptoms of acute peritonitis. Abdominal section was done on the eighth day, and a large quantity of almost pure bile evacuated, but no injury to the bile apparatus could be detected. He died on the ninth day, and, post-mortem, the liver and gall bladder were found intact, but the common bile duct was found completely torn through.

Archibald Cuff<sup>36</sup> reports intestinal obstruction caused by an enterolith in a woman, aged 59. She had symptoms of obstruction. The abdomen was opened and a hard mass was felt within the bowel, about three feet from the ileo-cecal valve. The bowel was occluded on each side of the obstruction by the fingers of assistants; an incision was made opposite the mesenteric attachment, and a stone removed. The wound in the bowel and the abdominal incision were then closed. The patient died of exhaustion.

Maurice Richardson<sup>37</sup> reports two cases of wound of the kidney. In each of these cases only the liver and kidney were damaged. There was some bleeding into the abdominal cavity from hemorrhage back of the peritoneum. In each case there had been complete perforation of the kidney, and some of its secreting structure had been destroyed. In each case it was necessary to make an extensive operation before determining what was to be done. In one case the renal vein and the pelvis of the kidney were very badly lacerated. In the other case they were uninjured. In the first case nephrectomy was performed, and death ensued. In the second case drainage was introduced and the patient recovered.

Doleris<sup>38</sup> attended a woman who was de-

livered at the eighth month; temperature 102.2°, and on the second day of the puerperium it rose to 105°. Typhoid fever was suspected, but the curette was used. The uterus, however, proved healthy. Next day serum diagnosis seemed to prove that there was typhoid. A few days later a swelling developed over the region of the liver, and suppuration of the gall-bladder was diagnosed. Abdominal section was performed, and much pus escaped from the gall-bladder. The bacillus of Eberth was detected in the bile which escaped from the wound during the first days which followed the operation.

Wyeth<sup>39</sup> reported the case of recurrent gall-stone obstruction in which the gall-bladder was found collapsed and empty at operation. The patient died unrelieved, and a post-mortem examination revealed a small concretion in the peritoneal cavity, and a stricture of the hepatic duct where the stone had ulcerated its way through.

These cases show how death occurred because abdominal section was not performed in time. I have a list of other cases which show the advantage of a timely operation. I have instances of rupture of the kidney<sup>40</sup>, rupture of the liver<sup>41</sup>, intestinal obstruction due to gall-stones,<sup>42, 43</sup> and to an enterolith<sup>44</sup>, where recovery ensued as the result of immediate operation. I refer especially to the 105 cases of gall-stone obstruction reported by Kirmisson and Rochard<sup>45</sup>, as additional evidence of the value of early surgical interference. I have notes of a case of recovery from suppurating cholecystitis occurring during typhoid fever<sup>46</sup>, and another case showing recovery from an early operation for acute suppuration of the pancreas<sup>47</sup>. Littlewood reports a successful operation for a traumatic cyst of the pancreas<sup>48</sup>, and Nolan describes a recovery from an operation for abscess of the spleen during the puerperium<sup>49</sup>. Mayo Robson tells us that in cases of ruptured gall-bladder laparotomy is called for, "otherwise a fatal termination is almost inevitable,"<sup>50</sup> and Thiersch reports a successful case where over forty pints of bile were removed from the abdominal cavity after the gall-bladder had been ruptured by a blow<sup>51</sup>. I have also a record of cases of rupture of

the urinary bladder<sup>52</sup>, rupture of the liver and kidney<sup>53</sup>, and Mercadi's two cases of injury to the liver<sup>54</sup>. In all of these cases recovery followed an early operation. I note Hochenegg's case of torsion of the omentum<sup>55</sup>, Cortiguera's case of twisted pedicle of a cyst containing twenty pints of fluid<sup>56</sup>, Winckel's case where fetal bones from an ectopic gestation were removed from a woman's bladder<sup>57</sup>, and the case of Richelot and Pauchat where an ovarian cyst ruptured into the rectum<sup>58</sup>. All these cases and many others that might be referred to show the advantage of an immediate operation.

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#### Discussion.

**Dr. William H. Maley**, of Galesburg: Mr. President—Reference was made in Dr. Lewis' paper to a gangrenous appendix in one case, and I wish to ask him if, at the autopsy, there was pus found in the abdominal cavity, or if there was something found that closely simulated it?

**Dr. Frank W. Goodell**, of Effingham: My friend, Dr. Lewis, has said that this operation (abdominal section) is so simple that it can be performed by all physicians. As I am one of many of what we call country physicians in this hall, I would like to ask the doctor if he will be courteous and good enough to give us a demonstration of the operation this afternoon. I am sure, we would all appreciate such a demonstration. I have no doubt he can get material enough from professional friends in this city to make whatever demonstrations he sees fit.

**Dr. Denslow Lewis**, Chicago (closing the discussion): The purport of my paper was to call attention to cases where immediate operation would have saved life and the cases reported show instances—and I could easily have cited many more—where death occurred because no operation was performed. For this reason I went into no special detail as to pathologic findings so that I cannot just now give a definite answer to Dr. Maley's question. The operative treatment of appendicitis is so large a subject I must not impose on your good nature by further discussion today. I appreciate the kindly courtesy of Dr. Goodell's suggestion. The society will soon adjourn and I have neither instruments nor dogs with me. Otherwise I would very gladly demonstrate certain intestinal operations. The value, however, of such a demonstration comes chiefly from doing it. No matter how often the abdominal operation is witnessed either in man or dog the practitioner cannot feel a full measure of confidence in himself until he has actually performed the operation. For that reason, as my last word on this subject, let me again urge every medical man and woman of this society to procure a few intestinal needles, a needle holder and a Murphy button and as soon as a dog or a cat can be kidnapped to practice intestinal anastomosis and a little scientific sewing for no one can tell at what moment the practical knowledge thus gained may be instrumental in saving a human life.

## PYOKTANIN AND ITS USES AS A SURGICAL AGENT.

BY EMANUEL FRIEND, M. D., CHICAGO.

Assistant Clinical Professor Surgery Extra Mural Rush Medical College, Pathologist Michael Reese Hospital, Attending Surgeon Michael Reese and United Hebrew and Rush Medical Dispensaries.

As it is so frequently the case that the old, whether an operative procedure, or a drug, is discarded for the new, without regard for the relative merits of both, that I am not surprised that the substance, which forms the title of the brief communication, should have become almost obsolete in so far as its employment in surgery is concerned.

Where I had formerly employed the same years ago in cases of stomach and intestinal carcinomata by internal administration I had quite nearly forgotten the same, when being called upon to take up the surgical work of the out department of Rush Medical College, I found my assistant, Dr. Ellis, using the same in a variety of ulcerous lesions with marked, yes, I might also almost be tempted to say, miraculous effect. I advised the continuance of the same, and employed the drug in my clinic at the United Hebrew Charity and Michael Reese Dispensary, as well as in private practice. In these various institutions I had the opportunity to study the effect in hundreds of cases and in the great majority with the most beneficial and rapid results.

Merck's only report on the same is as follows:

Pyoktanin (Puskiller) is the name given by Prof. J. Stilling of the University of Strasburg, Germany, to a group of substances, which he found most efficacious as bactericides. The name, however, has been restricted to the leading member of the group, which has thus become known as Pyoktanin Blue.

Pyoktanin Blue (Penta and Hexa—Methyl-Para—Rosaniline), also known as methyl, Dahlia or Paris Violet, is an oxidation product of Dimethylaniline and is derived from coal tar.

It is a non-poisonous, violet, crystalline powder, nearly odorless, very soluble in



chloroform soluble in 12 parts of 90% alcohol, 50 parts glycerin, 50 parts hot or 75 parts cold water. The solutions being very diffusible in animal fluids.

*Properties.* Antiseptic, disinfectant and analgesic, non-poisonous and does not form insoluble compounds with organic matter.

*Medical Uses.* In ulcers, burns, inflamed wounds, malignant neoplasms, and is highly extolled in veterinary practice in foot and mouth disease in cattle. It is also used in ophthalmiatric and otic practice.

*Methods of Application.*

*First*—It may be powdered directly on the surface of large, purulent wounds and ulcers, until a firm scab has formed, which must then be abandoned to spontaneous desquamation.

*Second*—Pyoktanin dusting powders, various diluents may be employed, such as talcum, starch, sugar of milk in the strength of 2%.

*Third*—Ointments, of the strength of from 2 to 10%, may be employed in a base of lanoline, lard, cosmoline or vaseline.

*Fourth*—Pyoktanin pencils. The pencil is dipped in water, then passed over the ulcerated surface.

*Fifth*—Solutions varying in strength from 1-1000 to a saturated aqueous solution, may be employed. The latter is the one we have employed mostly in our cases with, as I have stated, remarkable results. The only objection which I have heard regarding its use, from my colleagues, is that of staining the fingers of the operator which, in my experience, is not a valid one inasmuch as when the drug is carefully used by dipping a pledget of cotton, wound upon a probe into the solution, and making applications to the affected part, one need not soil the hands, nor the surroundings of the patient, and in case one does the stains are easily removed by soap and water or alcohol. Van Arsdale has used the drug with apparent success in cases of superficial wounds, excoriations, ulcers, abrasions, burns and all kinds of granulating surfaces. Ulcers did remarkably well under the use of the remedy and never were there any

exuberant granulations, dermatitis, or symptoms from the wound. The drug, as he states, hastened the healing of ulcers and exercised an astringent action in curbing granulations.

Burns under the same dressings showed very good results.

Wounds treated by the remedy heal by primary intention.

Adolph Kessler had results so marvelously brilliant that he is inclined to look upon pyoktanin as the ideal antiseptic and pus destroyer.

The drug has acted wonderfully in his hands in suppurative wounds and old indolent ulcers, where marked improvement could be noticed after a few applications.

Stilling & Wortmann tested its action on putrefactive bacteria and found that the drug killed the micro-organisms in a concentrated solution of 1-4000. Jaenicke and Braunschweig have confirmed these observations. Jaenicke especially has tried the drug on pure cultures of several pyogenic micro-organisms.

In bouillon the staphylococcus pyogenes aureus was destroyed by a solution of 1-200,000 parts, the streptococcus by 1-250,000 parts, a diplococcus resembling that of pneumonia by 1-1,000,000 parts. This action was less pronounced in blood serum, and in this the staphylococcus was killed only by 1-500,000 parts.

The staphylococcus aureus was destroyed in one minute by a solution representing 1 in 1,000, and the streptococcus in five minutes, the anthrax bacilli, without spores, in two and one-half minutes, while in a period of fifty hours the solution had no effect on the bacilli of typhoid fever. The same solution killed in five minutes the staphylococcus in a dried condition. When suspended in serum of blood an hour was necessary to destroy it.

F. C. Hotz thinks the best method of application in corneal affections is in substance. He finds the drug an antiseptic in minor wounds.

M. L. Harris, in a discussion of Hotz's paper, said he had brought pyoktanin in contact with almost every tissue in the body,

from the brain to the synovial membrane, with the exception of the eye, and after a thorough trial looked upon it as very useful.

Korn thinks that the result of the treatment of suppurating wounds by pyoktanin is the same as that by iodoform. Three cases of leg-ulcers of long standing were cured by the application of an ointment.

My own results compare with the most favorable of those quoted, as Harris has said I have brought the same in contact with almost every tissue of the body excepting the eye, and have had an almost universal good effect therefrom.

Burns of the second and third degree quite extensive in size, as well as large varicose and specific ulcerations as well as osteomyelitic bone fistulae were treated with a saturated solution of the drug with excellent results. A solution of 1-1000 was used in irrigating wounds, such as those following infective lymphadenitis, and a few weeks ago I employed the same in a case of infected Meningocele, involving the lumbar coverings of the cord, with good results. The chief advantages to its use are:

1. Firstly, the rapidity of action.
2. Its drying tendencies of the weeping wound surface and consequent cutting short of the suppurative process.
3. Prevention of adherence of the gauze covering the ulcerated area, and in consequence, the minimum of disturbance to the newly formed epithelial elements.
4. Curbing of excessive granulation tissue.
5. Non-irritating, non-poisonous, and anodyne effects.
6. Ease of application.
7. Cheapness.

## INFANT MORTALITY.\*

BY WILLIAM J. BUTLER, M. D., CHICAGO.

According to vital statistics, there seems to have been a decidedly yearly decrease in infant and early childhood mortality from all causes in past decade in Chicago. Atten-

tion has been particularly directed to the marked diminution in the death rate from gastro-intestinal and kindred diseases, which have always caused such great sacrifice among sucklings and young children in large cities during the hot months.

Special interest in pediatrics led me to investigate the death rate from these causes for two reasons; namely: (1) to determine the exact yearly decrease; (2) to determine, if possible, the probable causes for this decrease. While it would be desirable in reviewing this subject to secure data for at least the past decade, I found it impracticable, because of the incompleteness of early records to go back beyond 1897, since which time the Health Department kindly furnished me with many data.

I would preface the table presented below by explaining that there has been included under gastro-intestinal and kindred diseases the following: Gastritis, gastro-enteritis, enteritis, diarrhoea, convulsions and marasmus, under which several headings death certificates are made out.

Year.	Population under one year.	Population under five years.	Deaths under one year.	Deaths under five years.	Per cent. of Deaths to population under one year.	Per cent. of Deaths to population under five years.	Per cent. of Milk Samples below grade.	Average Temperature for July.	Average Temperature for August.
1897	35,247	135,126	3,079	3,754	8.4%	2.68%	11.71%	74°	69°
1898	36,622	140,411	2,771	3,348	7.56%	2.38%	6.66%	73°	71°
1899	37,997	145,696	2,910	3,650	7.67%	2.5%	.....	72°	74°
1900	39,375	150,980	2,655	3,225	6.7%	2.1%	7.5%	72°	76°
1901	40,753	156,264	2,595	3,180	6.1%	2%	7.6%	77°	72°
1902	42,180	161,733	2,540	3,134	6%	1.93%	6.4%	72°	68°
1903	42,873	166,231	2,581	3,144	6%	.89%	4%	72°	68°

A perusal of above figures shows a marked decrease in past seven years in infant mortality; that while the decline previous to 1900 was quite variable, that since 1900 seems constant and steadily maintained. It is needless to say that such a reduction will find its explanation not in mere coincidence or statistical error, but rather the result of one or several well-directed intermittently and continuous acting forces, the results of which are expressed in above figures. I use the word

\*Read at the 54th Annual Meeting, May 17, 1904.

intermittently, because it will be noted that while there was a marked decrease in 1898 over 1897, the death rate again rose in 1899.

Among the many causes ascribed for this reduction, to milk inspection probably has been attributed the most potent influence. In view of this, I have introduced into the above table the per cent of milk samples found below grade yearly.

It would seem at first sight that the death rate ran parallel to the efficiency of milk inspection, but on closer observation this is not so apparent. While 1898, with a milk inspection of 5% better than in 1897, showed a remarkable decrease in mortality, you will notice that 1901, with a milk inspection of 1% poorer, showed a greater decrease over 1898 than did 1898 over 1897. You will note further that although the milk inspection of 1901 was not quite as good as in 1900, there was still a notable decrease in infant mortality, especially under one year. A still equally forcible comparison is observed between 1902 and 1903, when with an improved milk inspection of 2.4% over 1902, there was no diminution in mortality under one year, and practically none under five years.

It would seem from above figures that the efficiency of our milk inspection does not coincide so intimately as we were wont to believe with the mortality of intestinal diseases in children, and that we must look further if we would explain this reduction. Before venturing further, it would be well for us to understand the extent of our present milk inspection. I am informed that it consists of two departments:

*First:* The inspection department, whose duties consist of

The occasional inspection of dairy farms.

The inspection of cans on arrival in city at the distributing stations.

The inspection of city depots, usually when licenses are applied for.

The collection of milk samples from milk wagons, and occasionally from distributing stations.

*Second:* A laboratory department, whose duties are the chemical analysis of all milk samples received.

This examination consists in determining the presence of preservatives or coloring matter; the specific gravity, the per cent of butter fat by Babcock's method, and the total solids and proteids, calculated therefrom. I understand the use of preservatives and coloring matter has long since been abandoned.

Bacteriological examinations are occasionally made.

The great advantage of this inspection is evident in so far as it can be carried out by the present staff in a city of nearly two million people.

The milk analysis must likewise be of great value, especially in so far as it assures the avoidance of milk being diluted by contaminated water, and this would seem to encompass its present scope in regard to milk supply.

And it is this contamination from dilution, also the unclean handling and keeping of milk, that have been powerful factors in influencing child mortality in the past, not only before reaching consumer, but thereafter, in so far as its consumption would be associated with impure water, unclean utensils, or exposure in insanitary atmospheres and unfavorable temperatures.

Although our knowledge of the exact etiology of gastro-entero-colic diseases is still incomplete, sufficient observations have been made to lead us to believe that some of them are due to special organisms, in all probability taken in with the food, and possibly some are already resident in the intestinal tract. At least it is far more probable that such causes are responsible for acute inflammatory infections of the gastro-intestinal tract than would be low fat per cent or total solids in milk.

In other words, we must concede without discussion that while milk at all times should be pure, clean and wholesome, we cannot attribute to low per cent of fat or total solids in milk the acute gastro-intestinal diseases in infancy. Nor can we say that a 3½% or 4% of butter fat and 12% total solids will obviate their occurrence. It is probable, however, that milk contaminated with infective bacteria, no matter what the per cent of solids may be, is capable of producing acute



infections. The great value of milk inspection would seem to rest in assuring freedom from contamination by dilution and in the handling of milk.

Probably in the water supply we can seek an explanation partly for the variation in mortality rate in years above mentioned. This will probably account somewhat for the lack of harmony between the efficiency of milk inspection and child mortality. This will probably partially explain the marked reduction in 1901 over 1898, notwithstanding the better milk inspection in the latter year, because in 1900 the city sewage from 39th St. on the South to Fullerton Ave. on the North; which would include the thickly settled part of the city, was diverted from the lake into the drainage canal. And we further notice that the reduction since 1900 is being maintained. Again, in 1897, during which year the mortality was considerably higher than in 1898, the records show that the latter year not only had better milk inspection, but that it had better water, that only during the last week in October and first two in November is it recorded as bad, while in 1897 it is recorded as bad for three weeks in January, one in March, one in April, one in June, three in August, two in September, one in October, and only during November is it regarded as usable.

I am not prepared to state the relation between polluted water and acute enteric diseases in children, but it is very noticeable that a decided increase in enteric disease is observed when water is recorded as bad.

From this standpoint, however, milk inspection would seem to have been of incalculable value in so far as it has obviated its contamination by dilution, but apparently of far greater primary importance has been the betterment of the water supply, in that the latter has also obviated, at least to some extent, contamination of milk after reaching consumer.

Resting for the time-being the discussion of the above points, we might take up other factors which have had great bearing on infant mortality. Not the least important among all is the question of temperature. I have, therefore, included in above table the average temperature for the months, namely,

July and August, during which the highest death rate from gastro-intestinal diseases occurs. It will be observed the average temperatures for 1902 and 1903 are the lowest for the seven years tabulated, and are the same for both years; that the temperatures for 1901 and 1900 averaged  $41\frac{1}{2}^{\circ}$  and  $4^{\circ}$  higher than for 1902 and 1903 respectively.

In reviewing the death rate with relation to milk inspection and average temperature for various years, it is quite striking that the mortality and average temperature for 1902 and 1903 remained the same, notwithstanding an improved milk inspection of 2.4% in 1903 over 1902. Therefore, in judging the difference in mortality between 1901 and 1902, we would not be justified in assuming that the improvement of 1% in milk inspection had any material bearing, but we would have reason to believe that the higher temperature of July and August of 1901 did have a forceful effect in increasing the death rate in the latter year over the former. Indeed, since the establishment of a better water supply, it would seem that infant and early childhood mortality bore a more constant relation to summer temperatures than to efficiency of the milk inspection.

Let it not be inferred that the purpose of this article is to deprecate the incalculable value of milk inspection, nor to question its great influence in past years in favorably influencing child mortality from gastro-intestinal diseases, but it seems an unavoidable deduction that the present extent of milk inspection has quite exhausted itself in affecting the death rate of children under five years.

On the other hand, it would seem that high temperatures had not lost their bearing on infant mortality from diarrhoeal diseases, the death rate of the past few years seeming to run parallel with the temperature. Whether there is any relation between high summer temperatures and enteric diseases in children may be difficult to prove in words, but apparently not in figures. Further evidence of this was seen this summer when, with an unprecedented low mortality, in the one hot week in July the death rate in children under five years increased 110 over the previous week.

We have all seen at some time or other the depressing effects of high summer temperature on adults. It is a clinical fact that similar conditions exert an equal, if not greater, influence upon infants and young children, lowers their vitality, and resistance, and renders their *locus minoris resistentiae*, namely, the gastro-intestinal tract, susceptible to insults and bacterial invasion, which may be already present or accompany the food.

It is not improbable that the healthy gastro-intestinal mucosa possesses a certain degree of resistance against bacterial invasion, and its normal secretions a protection to its contents against fermentation, both thus holding in abeyance bacteria present or taken in with food; that such bacteria are capable at any and all times under favorable conditions of producing their pathogenic action. That such favorable conditions are induced by anything that disturbs the function of digestion, to-wit: from the depression incident to high summer temperatures, the consumption of food not suited to their digestion, or of food swarming with infective bacteria, the existence of some acute infection, as pneumonia, etc.

That under the latter conditions the undigested material and toxic products of fermentation act as irritant to the intestinal mucosa, permitting of its bacterial invasion and the production of inflammatory changes. At any rate, there would seem to be some relation between high temperatures and enteric diseases in infancy. This is probably dependent on two factors:

1. Changes in food, especially its contamination with infective bacteria, the conditions for growth of which would be very favorable during hot weather. And these changes may exist in milk, irrespective of what chemical analysis may show.

2. The depressing effects of high temperatures may give rise to functional disturbances of digestion, under which circumstance the toxic products of fermentation and bacteria probably produce the inflammatory forms of entero-colitis.

Among the various points under consideration, probably none is more deserving of credit than the education of the public by

the profession through the various channels of information: The press, the Health Department, visiting nurse associations, dispensaries, hospitals, the family practitioner, more recently the Chicago Hospital Society, and fresh air sanitariums, settlement houses, etc.

The medical profession has taught them the necessity of pure, wholesome milk; its sterilization; boiling of water; cleanliness in preparing of food, and to some extent the methods of preparing it. It has taught them the advantages of fresh air and sunshine.

It would be impossible to estimate the full value of this instruction, but there can be no doubt that it has been one of the most important factors in diminishing infant mortality.

Another factor not to be overlooked is that the importance of pediatrics has impressed itself on the profession, and they know that a study and solution of the problems of infant life forms a special field in itself, and is one of the most important in the entire range of medicine, both from a scientific and sociological standpoint.

In summing up the subject of infant mortality from enteric diseases, and the various causes affecting it, it would appear that there had been a decided reduction in death rate from gastro-intestinal and kindred diseases; that in the past seven years this was most marked in 1900, since which our drinking water has been greatly improved. That prior to 1900 there seems to have been a variation in the yearly death rate, that is that while 1898 showed a substantial decrease over 1897, 1899 showed a marked increase over 1898. That since 1900 there has been an unvarying decrease. That no one factor would seem to explain fully all the figures given. That the condition of the water would seem to bear an especially important relation. That milk inspection has assisted greatly in so far as it has furnished a pure, wholesome milk, undiluted and carefully and promptly handled. That the low summer temperatures of 1902 and 1903 have been very favorable, and would easily explain the decrease over 1901; at the same time, that the similar temperatures of 1902 and 1903, with good water supply, would account for the unvarying mortal-

ity of those years. That the education of the people by the profession has been of incalculable value. That there had been a greater interest excited in pediatrics.

Lastly, but by no means of least importance, the conditions of the poor, among whom infant mortality is by all odds the highest, has improved considerably.

### SUCCESSIVE SCIENTIFIC STEPS ESTABLISHING THE MOSQUITO AS THE DEFINITE HOST OF MALARIAL FEVER.\*

BY THOMAS W. BATH, M. D., BLOOMINGTON.  
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Mr. President and Gentlemen: In the brief limits of this paper one can not do more than a cursory attempt to cover the field. This I realize, and therefore have sought to avoid symptomatology, pathology and treatment, and endeavor to submit for your distinguished consideration only such points as I believe are not usually dwelt on in the books. Furthermore, I desire to state that I claim no originality for this paper. The entire paper is based on the newer literature of the subject, upon my personal correspondence with many scientific men from various parts and on my own feeble observations while serving as surgeon in the United States Army.

The term Malaria, as everyone knows, signifies bad air. From the earliest time, when man began to associate cause with effect, it was noticed that those living in the vicinity of swamps and damp ground were the victims of fever. Later, as observations became more accurate, it was determined that malaria was a disease of certain zones. Not only was miasm, a term which a few decades ago stood the scientific world in lieu of more definite meaning, ascribed as the cause of malaria, but the water of ponds and marshes was considered equally potent as a conveyor of the disease. Hippocrates said that "he

who drank warm and fetid stagnant water acquired an enlarged spleen and a hard belly."

The etiology of malaria, never having been correctly determined until the last few years, gave a wide-spread belief among profession and laity, that it was a universal disease. I recall distinctly only a few years ago when practitioners in cities grouped nearly all irregular temperature disturbances under the protean heads of malaria or syphilis and prescribed the initiatory routine treatment of calomel and quinine. Any toxemia or febricula resulting from unknown causes was generally diagnosed as a "touch of malaria." It was impossible to take a journey into the country, or change drinking water or abode, or to live near excavations, when, if an attack of fever ensued, it was promptly termed malaria. In sections of the South where the disease is endemic, there exists beliefs that eating plums in the thickets always produces attacks of fever. And, if we were to follow up local traditions, in the regions where this disease has always held sway, we would hear the belief expressed that malaria loves the ground, that malaria is contracted by night vapors, that you get the malaria by drinking surface waters; and so on indefinitely, showing, apparently, that certain causes were productive of the disease. At the beginning of the Spanish-American war, Colonel O'Reilly, now Surgeon-General in the United States Army, was sent to Jamaica to make observations relative to the health conditions of the British troops quartered there; the United States having in mind the occupation of Cuba, desired whatever practical suggestions which a long experience of colonization had given the English government. Jamaica had long borne the ominous sobriquet "graveyard of the English." The first troops arrived there in July, 1799, 1008 strong, and were quartered at Kingston. In four years the whole command was dead. The following year 387 men were landed; 155 died within a year and the rest perished (presumably of disease) in an expedition. A few months later 791 men landed. In two years they lost 500 men while stationed in the healthiest locality of the island.

\*Read at the 54th Annual Meeting, May 17, 1904.



And so on; the narrative of British occupation records a frightfully appalling mortality. It is true that yellow fever was without doubt present at times, but possessed as we are in this latter day of more accurate etiology and looking over the clinical narrative of that day, it is perfectly safe to say that malaria was to those colonists the terrible King of Death. General O'Reilly found that today the British barracks are built above ground and that the ground area immediately underneath them are covered with cement. This was in obedience to the prevailing opinion that malaria was a "miasm," that undefinable something of the past, and could be contracted by contact with ground vapors.

However, the natives of all hot countries build above ground to escape being flooded by the rainy season as well as to protect them, as they think, from the fever which comes out of the ground.

While in Cuba and the Philippines I had on a great many occasions opportunity to observe that at night in the warmest weather the natives closed their houses up tightly because they said the night air caused fever. Stanley, in his second expedition through Africa, slept above ground on a specially devised frame, because his earlier observations were that malaria seemed to be associated with the ground.

Acting on the theory that malaria was in some way associated with ground vapors, the inhabitants of the Roman Campagna planted it in the Australian eucalyptus. This has also been done by people elsewhere, notably in California. As we now read the record of diminished malaria in those places where it was formerly so prevalent, we know that the eucalyptus, having a great attraction for water, dried up the soil, thereby destroying the breeding places of the mosquito.

Another local tradition in some parts as to the cause of malaria has been mosquitos. Among the shepherds of Southern Europe, certain mosquito infected localities have always been associated with malaria. The peasants smoke their huts at night to stupefy the insects so that they might not only enjoy rest

from their bites, but also they think they have less fever if this custom is followed. The shepherds drive the sheep into their huts to allow the mosquitos to gorge themselves on the blood of the animals so that their keepers might enjoy rest and less liability of contracting the disease.

When Koch was in Africa making observations on the rinderpest, he encountered natives who said they had mbu flies in their country and if bitten by the mbu they had the mbu disease. The mbu was subsequently found to be the mosquito and the disease malaria.

Emin Pasha, the German African explorer, concluded in some way mosquitos were responsible for malaria, for he took pains to protect himself during his explorations by sleeping under nets at night.

Passing over the mass of accumulated observations relative to soil, air, water, temperature and localities as factors of malaria, our attention is directed to the first observations of a scientific character in an attempt to find the real cause of the disease. In 1883 Dr. King, of Washington, D. C., in an exhaustive paper in which he reviewed all the popular beliefs, and after much careful observation on his own part, stated as his firm conclusion that the mosquito was the sole cause of malaria. Whether or not King was stimulated by the equally positive opinions of Dr. Mott, of Mobile, who, in 1845, wrote on yellow fever and ascribed that disease as due to mosquitos, or to Dr. Finlay, now Health Commissioner of the Republic of Cuba, who, in 1880, made a series of observations with mosquitos relative to yellow fever, we can not tell. But Dr. King, so far as is known, made no specifications with regard to sex or genera of the insect except to say, as quoted by Nuttal, "that all mosquitos will not produce malaria any more than the bite of every dog hydrophobia." But King certainly did not anticipate the complicated role of the parasite as having a dual existence necessary to its completion.

I have purposely referred to Mott's and Finley's opinions of yellow fever and mosquitos because the popular impression is that

both are diseases of the same zone. This, as we shall see, is not necessarily true. Yellow fever has always been endemic in the West Indies. Cortez, in his invasion of Mexico, found the vicinity of Vera Cruz to affect his men fatally. We now know that yellow fever was there. But in Brazil yellow fever was never known till 1849, according to Manson, when a ship from New Orleans put in at Bahia, and since that time yellow fever has always prevailed. On the other hand, malaria was never known on the island of Mauritius till the early sixties, and since that time the inhabitants have become nearly extinct. The same is true of the Hawaiian Islands. About 1855 dates the first introduction of mosquitos to those islands. They were brought there, quite probably, in the bilge water of the numerous whaling vessels calling constantly at that coast.

In 1880, Laveran, a French Army surgeon, while in Algiers discovered the parasite of malaria. Laveran thought it to be extra-corpuseular, but two years later Richards, by some authorities, and Celli and Marchiafava, according to others, found the parasite to be intra-corpuseular. The parasite being in need of a name in 1885 it was called *plasmodium malaria* by Marchiafava and Celli, after a seeming resemblance to the *plasmodiophora brassicae* of Woronin. This term is today, under our greatly extended biologic knowledge of the parasite, properly falling into disuse. Its proper biologic name is *haemamoeba*, or *hematozoa*. However, Laveran's discovery was not accepted by the scientific world until the two scientists above named conducted a series of experiments with reference to the *hemameba*, in which they found:

First—The melanin characteristic of malaria was formed within the parasite.

Second—Resemblance of the *hemameba* in cell structure and motion to protozoa.

Third—The *hemameba* multiplied by fission.

The accurate description of clinic symptoms and manifestations with the grouping and life cycles of the three types of tertian,

quartan and estivo-autumnal fevers, as we now know them, was also given to us shortly after by Golgi, of the Italian school.

Up to this point, for a time, further scientific knowledge regarding the origin and perpetuation of malaria, seemingly came to an end. Investigators had followed the trail to where it faded out and no new clue presented itself that might serve as an index for further direction. But in 1887 Metchnikoff reasoned that the so-called plasmodium must be a protozoon, and from it being found in the blood corpuscle and renewing itself by sporulation, concluded that it must bear some relation to a subdivision of the protozoa known as coccidium. Alsa Binz, a pharmacist, in 1869, considering that quinine arrested ameboid organisms, concluded that malaria must be an ameboid protozoan. This intuition of Metchnikoff's was to the further development of the malarial hypothesis what the finding of the famous Rosetta stone was to the interpretation of the Egyptian hieroglyphics. Scientists knew that malaria was not contagious, that is conveyable by contact, for Celli had experimented with all traditional means of acquiring the disease. He first made his experiments on birds and animals. These he placed in suitable boxes on the ground of the most intensely malarious districts, taking care, however, to keep them from being bitten by insects. No signs of malaria developed from these experiments. Then they were injected with supposedly malarious soil and caused to drink marshy water. Still no malaria developed. Then the ameba of the soil was taken and cultivated and in turn experimented with, as in the former instances all resulted negatively. Then many of the experiments were performed upon men selected for that purpose. With all these elaborate experiments conducted with air, soil, water and protozoic ameba, both on animals and men, not the slightest trace of malarial infection could be found. Consequently, scientists were at a loss to know Nature's means for the continuation of the disease: for all men know that in the great economy of Nature, she has established throughout all organic life, whether in man or the lowly

protozoon, a distinct process whereby reproduction is accomplished.

It was, therefore, Metchnikoff's declaration that the plasmodium, as it was then called, was a form of animal life, having an affinity for living and reproduction with the red cell, which led to renewed investigations relative to the past life of the protozoon. This became comparatively easy, because in 1882 Pfeiffer, Schaudin, Schneider and Simond had carried on an elaborate study in the biology of protozoa. It was found by these distinguished men that many of these low forms of life had a two phase or dimorphic cycle necessary to their complete existence. Studies on the *adela ovata*, a protozoon, had shown the astonishing fact that this protozoon could live and multiply in one body through the process of simple fission—similar to the karyokinesis of higher organisms. But that to perpetuate itself, Nature had given it another means whereby reproduction could be accomplished in a finished state, so to speak. This latter way was by certain cells which were bi-sexual in their structure. These cells were termed gametes. The gamete consisted of a male cell called macrogamete and a female cell called microgamete. The male element was capable of emitting flagellae, one of which would penetrate the granular female cell, performing a fecundating function and in that way a truly sexual cycle, as compared with the former asexual or fission reproduction was instituted.

Later it was found that rabbits were especially prone to certain diseases of a protozoic type, and some of these infectious cocci have been found to play a part, though rare, in the role of human pathology. But in the above named instances it was established beyond doubt that certain of the suborders of protozoa must have two separate and distinct organisms in which to complete their full existence and possibility of continuation. Hence the term dimorphic-cycle. Therefore, with this in mind, investigation received a new stimulus.

Several years prior to Laveran's discovery of the hemameba, Lancaster and Danilewski had made a series of findings of parasites in

the blood of frogs, turtles, reptiles, birds and animals. For lack of a better name they were called blood-worm. In the batrachia and reptilia the hemoglobin of the blood was not abstracted, but in the erythrocytes of birds and animals great destructive changes were noticed. In fact all the pathological conditions ensued, similar to malaria in man.

Studies on comparative malaria on animals and birds gave a wider range of interpretation to its causation in man. Dr. Theobald Smith, in about 1890, definitely located the cause of Texas cattle fever as being the parasite *pirosoma bigeminum*, due to the tick *boophilis bovis*. Labbe, a French scientist, gave us the generally accepted classification of bird malaria of halteridium and proteozoma.

Celli, however, differs from him and believes in a further classification. The term halteridium was given because the parasite on entering the red cell disposed itself in a haltershaped manner about the nucleus. The halteridium form of malaria is taken to correspond with the estivo-autumnal type of man. This form of malaria is very widespread among crows. *Proteosoma*, so named because the parasite in entering the erythrocyte displaced the nucleus from the center to the side, hence the name. This type of malaria is also widespread among birds, the common English sparrow being peculiarly susceptible to this form of infection. It corresponds to the tertian and quartan types as found in man.

Finally, in speaking of the last and equally important chain of investigation leading to the proof that malaria is an infection transferred to man's blood through some intermediate agency, we must mention Manson's analogy of filaria to malaria. The filaria nocturna was discovered in the human blood by Demarquay in 1863.

As is well known, filaria is one of the scourges of the tropic world. Manson declares that in the zones of its endemicity fully one-tenth to one-half of the inhabitants suffer from this parasite. 'It was in 1879 that Manson discovered in the body of the mosquito a cycle of development of the filaria



nocturna; however, not being able to keep the insects alive in captivity, Manson was not enabled to further pursue his researches relative to the manner in which the filaria was transferred from mosquito to man.' But, as the discoveries of halteridium and proteosoma in birds had revived the interest in malaria, Major Ross, of the English Army, at Manson's suggestion, in 1895, caused birds to be bitten by several varieties of mosquitos. In the stomachs of some of these mosquitos Ross found that when the mosquito had sucked blood from a bird infected with proteosoma, exflagellation ensued. Later on, in 1897, he determined pigmented parasites in the mosquito's stomach. The complete chain of avian proteosoma infection was carried out in 1898 when Ross took the uninfected grey mosquito, *Culex pipiens*, and caused it to bite infected birds. These mosquitos in turn were induced to bite birds not suffering any infection. The process of cell fecundation, as had been described by MacCallam, was found to occur in the stomach of the mosquito. The parasitic fertilized cell proceeded to undergo characteristic development in the stomach of the mosquito, which, when completed, bursted its capsule and liberated the new born sporozoites into the lacunar circulation of the mosquito. These sporozoites in turn, penetrating the salivary gland of the mosquito, were injected into the blood of the bitten bird, there to go through the asexual process of multiplication by sporulation. The function of the flagellæ and crescents for the first time now became known.

Laveran believed that flagellæ and crescents represented the mature form of the parasite. The Italian school, on the contrary unanimously believed them to be the dead products of sporulation. But Manson believed neither of these hypotheses. Knowing that the spore never left the red cell only after completing its cycle and then to immediately affect its entrance into a new cell, and that the flagellæ and crescents never penetrated a red cell, but kept afloat in the plasma, he concluded that these flagellæ and crescents were by some method the means of transmitting malaria from man to man.

Reasoning by virtue of his discovery that the mosquito, in sucking filarial blood, became infected with the filaria and thereby possibly (not yet proven) became the means of infecting man; so likewise the mosquito, in sucking malarial blood, might suck those flagellæ and crescents into its body and in turn become the means of disseminating the infection.

It was from this suggestion of Manson's that Major Ross, in India, went through a laborious series of experiments in which he proved that a particular type of mosquito could become the conveyor of a particular type of malaria. This he abundantly proved in that type of bird malaria known as proteosoma.

Ross' experiments were conducted with the grey mosquito, a *Culex*, known as *Culex pipiens*. Ross then began to search for the particular species of mosquito which might convey the disease to man. At the same time Grassi of Italy, was unconsciously working in exactly the same field. They had in mind Manson's conjecture that probably "each hematozoan required a particular species of mosquito."

These men were enabled to announce at about the same time that human malaria was transmitted through the medium of the *Anopheles* mosquito.

This discovery is one of the most important that has ever been effected in the history of medicine. (With this should be classed the equally important one given us by the United States Army Commission, that of the *Stegomyia facia*, as the conveyor of yellow fever. Although the germ of yellow fever has not, up to the present, been found.) This knowledge that malaria does not come from drinking swamp water, or sleeping on the ground, or inhaling night air, or change of residence to a warm climate, or by any of the usual means formerly ascribed as its mode of entrance; but that it is an animal parasite, a blood sporulating coccidium of the lowest type of protozoic life, having two cycles of existence, and invades man's blood only through the bite of the previously infected female mosquito of the genus *Anopheles*.

This knowledge will today mightily clear up the misty realm of inaccurate diagnoses of the past and tend to ascribe certain results as being the product of certain causes.

In the brief limits of this paper, it will not be possible to more than touch on some of the more striking considerations of the subject. The enquiring mind will ask: Is the malarial parasite a completed entity, or does it undergo some evolution of form and function? In a personal correspondence from Prof. Ohlmacher (author of *Pathogenic Microparasites in the American Text Book of Pathology*) he says, "We are in ignorance concerning the evolutionary phases which have resulted in the perfect adaptation of these organisms to their parasitic existence in the human host and in the mosquito. As we encounter malaria today we believe that the organisms flourish only under two conditions: One, that of parasitism in the human host; the other, that of parasitism in the mosquito. It is not the present disposition to believe that this organism exists outside of the bodies of these animals in a condition which makes it possible for it to induce the disease." Dr. Theobald Smith, of Harvard University, says in his Shattuck lecture on malaria, "There is no evidence, experimental or theoretical, which assigns to the malarial parasite life outside of man or the mosquito; they spend their whole lives as parasites." And further on he says, "The malarial parasite is not created anew by telluric or meteorologic conditions, but it comes from some preexisting parasite." I cite these eminent authorities because some investigators are inclined to believe that the protozoon has to undergo an evolution in form and function. With reference to evolution or non-evolution of pathogenic parasites, Manson, in writing on tropical typhoid, says that, "Soldiers on the march in India contract typhoid in uninhabited country never occupied by man before and where the water of springs and streams are beyond suspicion of fecal contamination. From these data the inference is suggested that under certain conditions of soil and temperature the Eberth bacillus may exist as a pure yet virulent saprophyte for

which an occasional passage through the human body is by no means necessary."

Again it might be asked, is man the only animal capable of being an intermediate host of the malarial parasite? You will recall that I have made mention of malaria of birds, halteridium and proteosoma, besides of animals, frogs and reptiles. This parasitic disease may better be termed an analagous malaria, for Manson says, "No vertebrate animal, except man, as we know, has malaria." But he says that there are possibly other phases to the parasite's existence; meaning, possibly, other bodies aside from man capable of being the intermediate host. In support of his conjecture he asserts that there are districts in Africa, India and elsewhere which are practically uninhabited by reason of the virulence of malaria; and the question suggested by this fact is: If malaria is endemic there without the presence of man is there some animal or host capable of acting as an intermediate?

In view of the newness of the mosquito hypothesis concerning malaria, some one will ask: How does the parasite gain entrance to the body of the mosquito? If we accept, and we must, the statements of Smith and Ohlmacher as just read, we can arrive at no other conclusion but that the female anopheles sucks the flagellæ or crescents into her stomach, and there these elements, being bi-sexual or gametes, produce a proper sexual fertilization by which the parasite becomes developed. But I quote the opinion held only recently by Grassi, who says, "Either the germ is undoubtedly in the egg and hence passes to the larva, the nymph (pupa) and the adult mosquito; or the larvae eat in stagnant waters with the remains of the body of the infected mother mosquitos, and thus they infect themselves in turn." We might add that this is about the procedure of the infection of the cattle tick. But Celli, in working on Grassi's hypothesis, found the assertion untenable and says, "Up to now, neither morphologically nor experimentally, is it possible to demonstrate the hereditary transmission of the infection from mosquito to mosquito,



neither by the eggs nor the larvae which have eaten their spores."

It is always asked why is the anopheles the only mosquito capable of transmitting malaria? I answer by quoting Dr. Howard, of Washington, D. C., the Government entomologist, "Nobody knows why the anopheles, and not the culex, is the secondary host. This is a question probably pertaining to the anatomy and physiology of the host (mosquito), but it has not yet been determined."

In connection with the knowledge that the anopheles is the only host of human malaria, it is also reasonable to ask why, in view of the fact that the anopheles punctipennis abounds through the North, is there not more malaria? I have repeatedly caught the *A. punctipennis* in our neighboring streams, yet the only cases of malaria in Bloomington, to my knowledge, have been those imported from the South. Dr. Howard, writing on this point, says, "The possibility is not yet excluded of there being another intermediary host besides man capable of harboring the parasite, and assuming that this were so, this host might have become extinct in the low lands where it is now known that the flora and fauna have altered." And concluding that the *A. maculipennis* is the variety that transmits the parasite of the estivo-autumnal fever (though we are in doubt concerning the connection of the different types of malaria with the different varieties of the anopheles), then our only theory for the mosquito and not the related fever with it must be as Smith says, "That the crude external character (of the mosquito) may be the same as those in the South, yet the physiology of the insect may be decidedly modified by a colder climate."

With that in mind we can take up a very important condition of the disease, namely, its recurrence. How long will it continue to recur after the system is infected? If a man, once thoroughly saturated with either type of the disease, removes into a temperate zone where there is no possibility for reinfection, the duration of his infection may be possibly three years, or even more. With this in mind, knowing that after a return from Cuba

and the Philippine Islands, many of our soldiers present evidence of recurrences, I wrote Dr. MacCallam, of Baltimore, and Dr. Theobald Smith, of Boston, both eminent authorities. I can do no better than quote these distinguished men. Dr. MacCallam: "It is well known that the symptoms of malaria may reappear after months of latency, in which the parasites have disappeared from the blood, and I think there is no reason why such a period of latency might not extend to three years. I should be very sure, however, that there had been no opportunity for reinfection during those three years and that the parasites now found are of the same type as those found there before making the statement that the case is actually one of so long duration." Dr. Theobald Smith: "Your query concerning the persistence of the malaria parasites in the human body is one about which no very definite evidence is at hand. The testimony from malarial infections in animals favor the view that the human parasites may persist indefinitely. At the same time we do not know precisely the effect of the quinine treatment, which may eventually rid the system. I am of the opinion that the occasional recrudescence of the disease, due to unfavorable conditions or accidents of life, tend to favor the persistence of the parasite, as well as its dissemination to others. Without doubt the near future will give us more satisfactory data."

Manson and Celli repeatedly speak of the possibility of its recurring after months or years from the time of invasion. It is interesting to know in this connection that the infected mosquito is not considered dangerous after some time has elapsed since receiving the infection. The sporozoites either die in her salivary glands or lose their infective properties. Just the opposite is true in the stegomyia of yellow fever. The longer from date of infection of the stegomyia the more dangerous and virulent, apparently, is her bite; but the yellow fever patient ceases to be infectious after three days from beginning of disease. The United States Army Commission kept infected stegomyiae about seventy days. How much longer they would



have retained the power to produce yellow fever could not be ascertained, as the mosquitos were devoured by the myriad of small ants.

Texas cattle fever has proved inoculable after nearly three years latency and proteosoma of birds after five months latency. As is now generally acknowledged, the deep viscera may continue for years to produce gametes, and symptomatic disturbances of a masked character might, especially after some systemic depression, continue to reassert themselves.

Physicians are frequently asked about acclimatization. In view of the great broadening of our commercial hemispheres and development of tropic and subtropic industries, people, with a view of such residence, will rightly ask what is there in acclimatization? All men who have ever lived in the tropics will tell you acclimatization is much a matter of care and common sense. There are several things which experience soon teaches the new resident. He must avoid fatiguing exercise in mid-day; he must abstain from strong drink, but especially through the day; he must boil his clothes to prevent contracting dhobie itch; he must boil the drinking water to prevent amebic dysentery; he must be vaccinated to avoid small pox; he must wear, especially at night, an abdominal band to prevent catarrhal dysentery, and lastly, he must avoid, as much as possible, the bites of mosquitos, and this he can do by screening his house and sleeping under gauze nets at night. The above enumerated rules are largely what acclimatization means, though it must be accepted as an indutiable fact that there is something further yet, for it is well known that the new comers are always prone to quick and severe attacks of the prevailing disease, from which the older residents seem to be free. The impression is also that the dark races bear a relative immunity to malaria. This I believe to be wrong. There never has been proved a special resistance in the blood of a black man to malaria. In my judgment he is as equally susceptible as is the white man. But his apparent immunity can be well explained on

the observations of Koch and others. Their observation is that the native children are just as susceptible as the new white arrival. In the ravages of disease the weaklings are killed out. Those remaining live because of their stronger vitality. As they grow into maturity, while their blood continues to contain parasites, yet they are able to withstand this without much apparent harm. My own observations in the Philippine Islands was to the same effect. Pernicious malaria in its many associated forms, dysenteric or anemic, either slaughtered the children or so vitiated their constitutions that they became an easy prey to other disorders common to the climate. Celli supports this theory by giving the malaria mortality statistics of Italy for the year 1890. While always high, the ages from 5 to 20 years show a mean average of 44 per cent deaths as compared with half that per cent in adult life. Dr. Theobald Smith is inclined to think that there is an inherited immunity transmitted to children through generations of infection. I cannot agree with this, although I well know that the old diseases of civilization when introduced into new people, as is instanced in the Pacific Islands, sweeps them away.

If we take the ground that there is no such thing as inherited immunity, to what shall we attribute the cessation of the disease? In turn we ask why do the zymotic diseases have a period of self limitation? Why is typhoid generally three weeks; measles and other diseases limited to so many days? Is it because of phagocytosis, or any proliferation of homologous cells? I believe that, in view of the fact that many of these diseases ravage the system but once, nature must have developed some antitoxin peculiar to that disease whereby the system is spared the possibility of another attack; and, as in malaria, where the system acquires a so called tolerance and the blood destruction seems to be under control, it must be due, not to an inherited immunity as Smith suggests, but to all these means of phagocytosis, cell regeneration and possibly the production of an antitoxin whereby the system is saved from entire destruction. So then, acclimatization and immunity possibly

means, in addition to the observance of rules of health incident to the climate, the development of a new resisting physiological function not as yet elaborated.

With this brief review of some of the causes and role of malaria fever, the progressive physician of today will not be inclined to term every icteric hue or hepatic disturbance, every hidden febricula or toxemia, as malaria. And while knowing that this disease may assume some masked characters, the discerning mind, assisted by proper scientific means, will easily class malaria as a positive entity resulting from a definite cause.

**AUTHORITIES CONSULTED**—American Text Book of Pathology; Ander's Practice; Thompson's Practice; Stephens' and Christopher's Practical Study of Malaria, Liverpool School of Tropical Medicine; Nuttall's Role of Insects, Arachnids and Myriapods as Carriers of Disease, John Hopkins' Hospital Reports; DaCosta's Clinical Hematology; Journal of Experimental Medicine; Dr. Theobald Smith's Shattuck Lecture on Malaria; Celli's Malaria; Berkley's Laboratory Methods with Mosquitoes; Buel Colton's Zoology; Surgeon-General U. S. Army Reports, 1899-1901; Reports United States Commissioners Panama Canal; Manson's Tropical Diseases; Howard's Mosquitoes and Malaria; Propagation of Yellow Fever, by Major Reed, U. S. A.; Etiology of Yellow Fever, by Drs. Reed, Carroll, Agramonte and Lazear; Experiments on Cattle Fever, United States Bureau of Animal Industry.

#### Discussion of Dr. Bath's paper.

**Dr. Wm. E. Quine, Chicago:** A paper so exhausting in its minuteness and accuracy of detail should not be allowed to pass altogether without comment, and particularly without favorable comment. It is one of the most exhausting and accurate and intelligent presentations of the subject that has come to my notice. There are, however, problems connected with the study of malaria which are not explained and are not explicable, so far as I know, upon the basis of the data embodied in this valuable essay. A number of striking experiences have come within the realm of my own professional life, only one of which I shall mention.

A few years ago I was consulted by Dr. Bertha VanHoosen, of Chicago, on account of a temperature of  $104.5^{\circ}$  F. in a new-born baby, less than twenty-four hours old. The baby was born in midwinter when the temperature of the outer air was approximately  $10^{\circ}$  below zero. The next day the baby had a temperature of  $105.5^{\circ}$ , and on the next day it had risen to  $107.5^{\circ}$  F.

To make the story short, that baby was suffering from a malarial infection. Its blood was examined and found to be teeming with myriads of malarial organisms. The diagnosis was confirmed at the time by Dr. Gehrman, of Chicago, and the elder Klebs, who lived in Chicago at the time.

The baby was apparently moribund at the time the consultation was held. I suggested that a moderate dose of quinine be given the child per rectum. Through some misapprehension

of what constituted a moderate dose of quinine for a baby three days old, a dose of nine grains was given the infant, and *mirabile dictu*, the infant remained alive, and that put an end to the febrile disorder, although some days elapsed before the blood was rid of the malarial parasite.

The blood of the mother was not examined immediately, nor was her milk examined. This examination was delayed owing to the pre-occupancy of the family physician, but when finally the blood and milk of the mother were examined, no malarial organisms were found in them. But I have to admit in this connection that it was only the peripheral blood of the mother that was examined, and it is a well-known fact that peripheral blood may not show malarial parasites of the estivo-autumnal type.

**Dr. Bath, closing the discussion:**—I am very glad that Dr. Quine discussed my paper. Text-books speak to some slight extent of the possible hereditary transmission of malaria, but they are not definite on that point. I have looked this question up very carefully, but failed to find anything in favor of such transmission of the disease. Still the only reason why we might have malaria in midwinter, in an infant only three days old, is suggested on this hypothesis. It is a valuable point in this case that a blood examination was made and the malarial organisms found.

Thompson, in his text-book on practice, speaks of the case of a man who lived near an excavation in New York, and he contracted malaria. He could not go out, thus eliminating the possibility of infection. Thompson does not say whether or not a blood examination was made, and if so, fails to mention what kind of a parasite was found; but the man had malaria. He seems to be of the opinion that we still contract malaria from toxemia, from causes that arise out of the ground.

The only thing in regard to the three-day-old baby is this: It is possible for a mosquito to have been in the house and live there in a temperature that would not destroy it. The yellow fever mosquito will live seventy-three days until destroyed by the small ants that are very troublesome in the tropics. In New Orleans they find that the mosquito will live from fall to spring. Just how long it will live, we do not know, but we do know that it takes just seven days for the organism to develop in the mosquito, and about six days to develop the organism in man, consequently the case cited by Dr. Quine is interesting. It gives us a lone solitary incident of malaria occurring in a newly-born infant. The text-books have little to say about this; in fact, they only take up the transmission of malaria from the mother to the fetus.

I have no reason to doubt the correctness of the diagnosis made by Dr. Quine, because he said that when the blood of the child was examined they found malarial organisms present. Therefore, I take no exception to that case. I venture a conjecture without known scientific basis that the mosquito had fully-de-



veloped sporozoites in her glands and by the high temperature of the room produced the rule, otherwise it was undoubtedly a case of hereditary transmission.

**Dr. Quine:** The point I attempted to make evidently escaped your attention. The infant had a temperature of 104° F. before it had been in the world twenty-four hours.

**Dr. Bath:** I did not catch that.

## THE PSYCHICAL EQUIVALENTS OF EPILEPSY.

BY J. F. HULTGEN, M. D., CHICAGO.

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*A. Their Nature and Varieties.* While keeping in mind the wholesome advice of Clifford Allbutt, to generally refrain from definitions, I shall precede the subject of equivalents with a short, epitomized description of epilepsy. I am not speaking of the epileptiform manifestations from morbid alterations in the central nervous system during any disease, but of *idiopathic, genuine or essential epilepsy, which is a psychoneurosis, a disease of the entire nervous system in which there is a more or less periodic, paroxysmal disturbance of the controlling and directory mechanism of cortical centers upon one another, or, upon lower, subcortical or possibly medullary centers. Such a disturbance of the normal hegemony of certain centers is manifested either by paroxysms of abnormal motor, or psychomotor activity—which is the rule—or by abnormal inactivity, which is very much less frequent. Random, brusque release of one or more of these three mental energies, or a just as sudden and unmotivated abeyance or suspension<sup>2</sup> of one or more of the mental faculties. It is then a disease, in which, besides other mental, nervous and somatic symptoms, there is a succession of cortical or subcortical storms, which take origin in, or at least depart from, certain rather indistinctly demarked regions of the cerebral convolutions or basal ganglia. These supposed or real starting-regions may be (a) in the thinking or psychic portion of the brain, in the frontal lobes [psychic epilepsy] (b) in that part of the cortex which receives and elaborates special sense stimuli, i. e., the parietal, occipital, temporosphen-*

*oidal, uncinate and hippocampal convolutions; or (c) in the rather wide domain of general sensation (touch, temperature, etc.) both in pre and post Rolandic areas; or (d) in subcortical nerve-cells around the Rolandic fissure, causing motor symptoms. Of course, two or more of these regions can manifest their troubles together, and thus cause epileptic manifestations conforming to one of the several clinical varieties: psychomotor or sensori-psychomotor. It is easy to understand the raison d'être of a psychic epileptic syndrome, or of a psychomotor equivalent when viewed from the standpoint of localization of these various functions in the cortex or basal grey matter. But the studies of Hitzig, Flechsig, Horsley, and Féré, and the ideas of H. Jackson and of Brown-Sequard have given such undue value to the existence of motor convulsions that we are neglecting all other symptoms and confining our ambitions to the study of motor signs. Today, a convulsion is for most physicians<sup>4</sup> synonymous with epilepsy. A curious schism thus grew upon the medical profession: those men devoting themselves to neurology mainly, such as H. Jackson, Allen Starr, Gowers, and Tomlinson, and others speak highly of psychic or other equivalents of epilepsy, or omit entirely to mention them in their descriptions: the latter even denying their existence altogether<sup>5</sup>. Alienists and psychiatrists, such as Morel, Falret, Legrand du Saulle, Maudsley, Kraepelin, Binswanger, Nothnagel, and others clearly and emphatically show the identity of psychic manifestations of epilepsy with the motor symptoms of the great psychoneurosis.*

A psychic equivalent is a true and legitimate evidence of idiopathic or essential epilepsy; *a clinical variety of that disease in which the psychic manifestations exist alone or to the more or less partial exclusion of other symptoms. In fact, the domain of genuine epilepsy, considerably narrowed in one direction by the studies in secondary or organic epilepsy, has shifted its ground towards the psychic portions of the cortex and has thus enlarged its realm in another direction. The importance of the motor cortex has been exaggerated in the past, and the*



fields of self-consciousness, and of idea-association, and the thinking or psychic region are now receiving their due attention.

To fully understand the term psychical equivalent, we must study the conditions that necessitated the existence of this term, its genesis, development and maturity. Epilepsy itself has been known and described since the dawn of medicine, but it was not until Trouseau<sup>7</sup>, Jackson and Griesinger began to prune out that great clinical tree of epilepsy, and such terms as paroxysmal migraine, symptomatic or Jacksonian epilepsy, and epileptoid conditions cropped out as a result of their efforts. Almost simultaneously European alienists, notably Falret, Samt<sup>8</sup>, Maudsley began to classify as epileptic certain nervous disorders, considered as closely allied to epilepsy or as epileptoid by previous clinicians. They confirmed the views of older investigators and established the psychic epilepsy upon a firm basis. Binswanger<sup>9</sup> ardently supports the grand mal intellectual and petit mal intellectual of Falret, which that author claimed to be parallel with and analogous to motor grand and petit mal, except that in the former, psychic symptoms appear alone or with such predominance that any motor symptoms occurring might be so slight as to be difficult of detection. Moebius goes so far as to deny every motor manifestation in psychical equivalents. But I shall keep away from debatable questions and enumerate the varieties:

1. Vertiginous attacks.
2. Absences.
3. Attacks of Amnesia.
4. Dreamy states.
5. Impulsive states.
  - a. Homicidal, suicidal, destructive.
  - b. Exhibitionism.
  - c. Pyro-Clepto-or dromo-mania.
  - d. Dipsomania, seldom polyphagia.

Before going into the details of these several forms of psychic equivalents, it is necessary to caution the reader against the following sources of error: 1st, an epileptic equivalent may be simulated very closely by some periodic exacerbations of other mental diseases; 2d, there is a very hazy boundary between true epilepsy and some cases of Jack-

sonian epilepsy; and, again, eclamptic symptoms from acute or chronic intoxications may lead us astray. However, in difficult cases, a careful search and lookout for motor symptoms, scrutinizing inquiries into the entire anamnesis and, minutest examination for the psychic and somatic earmarks of epilepsy, will in nearly every case decide the question.

1. *The vertiginous attacks*, paroxysms of giddiness, during which the patient has an objective or subjective sensation of turning moments of himself or of the things around him. A sudden disorientation seizes upon him although he rarely, actually rotates<sup>10</sup>. Motor symptoms are slight or absent.

Consciousness is not so profoundly affected as in petit mal. The whole attack may last one-half to two minutes. It may fairly closely simulate the "dizzy spells" of senile psychoses, of arteriosclerotic disease, of the Stokes-Adam syndrome, and of general palsy of the insane. The most typical attacks of vertiginous equivalents occur in younger people in whom other causes of vertigo are absent, and in whom the ancestral and personal findings of the great psychoneurosis are present<sup>12</sup>.

2. *Absences*: A temporary or momentary shunting off of consciousness, not a complete suspension. There is a transitory leak in consciousness with clouding of the intellect, along with which may be no other external motor symptoms, except some salivation, and chewing motion, or, irrelevant, mumbling talk. But, the peculiar troubled, staring look is the prominent objective sign, and the patient and even his friends, may not know of these spells at all, until special inquiry is made for them: The patient will usually resume his broken off conversation or work as if nothing had happened.

A friend of mine from Ohio had such an attack, while we were at the table. He was carving the fowl, when he suddenly ceased cutting, staring far off, and became very pale; all of which lasted about half a minute, and then he completed his duties of host. The family looked at him and then at me knowingly: the spell was over, and we all strove

to cover up the fleeting shadow that had just passed over my friend's mentality.

3. *Attacks of amnesia*: the analogues of absences, only that the former involves memory, and the latter consciousness. Thus the patient will find himself suddenly devoid of all memory of past things, persons and times. The same gap in memory as during absences in consciousness. The two may coexist, or interchange. The epileptic nature is shown by all the characters stipulating any of the varieties of essential, genuine epilepsy. During the temporary suspension of idea-association, and idea-formation the lower, subcortical, and automatic centers continue to functionate in spite of the mental vacuity.

4. *The Dreamy State* of Hughlings Jackson Dämmerzustand of the Germans, état crepusculaire of French authors, and automatism of Gowers<sup>13</sup> are synonymous. This condition, like every manifestation of epilepsy, is sudden, without motive, and usually without warning. The onset of this solution of continuity of self-consciousness is followed usually by a just as brusque restoration to the normal state. Duration from a few minutes to several hours or days and even weeks, and the return to consciousness always accompanied by simple or retrograde amnesia<sup>14</sup>. It is a hypnotic state from auto-suggestion, and, acts performed in the dreamy state may be coordinated and apparently premeditated, so much so that some well-known and well meaning jurists have held such patients responsible for crimes committed in this state. This is opposed to by Kiernan, and other leading alienists<sup>15</sup>. If such patients during the dreamy state carry out their plans with great precision and irresistible energy, it is because their mind is free and unhampered by any idea from the past—memory being in more or less complete abeyance. The degree of automatism and amnesia varies in intensity with that of the dreamy state<sup>16</sup>. The immense clinical and forensic importance of this variety of epileptic equivalents is at once evident, but there is no other chapter in legal medicine which is so little known as this one.

5. *Impulsive states*: Characterized by the irruption upon the patient of uncontrollable sensations of fear, anger, dread, rage, religious fervor, sexual desire, craving for drink, and so forth. During such conditions, acts may be performed, which are not in line with our social, moral, or legal code<sup>17</sup>. It is just these infractions that will bring the individual before the lawyer and the psychiatrist. It is easy to understand that the underlying psychosis remains the same whether a case will be called pyro, klepto, or dipso mania, or one of suicidal, homicidal, or destructive mania, or one of satyriasm. The foundation is the same no matter which principle is violated, and the patient is either entirely irresponsible or only partially accountable for any acts committed during such impulsive states.

In the impulsive psychic manifestations of epilepsy the patient is not guided or impelled by any systematized delusions or hallucinations, but rather by an unprovoked, imperious sensation, a craving for satisfying a certain desire. The direction may be given to these impulses by the environment, by chance, and especially by the inherited tendencies, but I agree with A. Petit<sup>18</sup> in that the cerebral soil, antecedent to the first epileptic seizure will determine the kind of epileptic manifestation exhibited by the patient; and, as a rule will be continued more or less stereotypedly. Thus, one patient may show spells of amnesia, another of impulsiveness, a third of vertiginous attacks. Certain brains are a soil for maniacal outbursts, others for depressive states. The causes accounting for this selective thriving of certain psychopathic plants upon a given cerebral soil are too complex to allow of our successfully analyzing them with our modern means of precision. Again, just why certain social, family and political surroundings will prompt one impulse in this direction and another one into a different channel, can not even be surmised. The ablest psychiatrists will find it extremely difficult to foretell in which direction a given impulsive patient will spend his paroxysms of unbridled mental energies.

The factors determining this are multiple and intricate in character, yet I venture to say that, if the parents had psychic epilepsy, the same form will probably exist, either alone in the child, or at least overshadow in intensity any other symptoms. Practically, this makes little difference so long as we classify such cases correctly into the category where they belong—namely, epilepsy.

*B. Diagnosis of Psychic Epileptic Equivalents:* I have not spoken either of the pathology of epilepsy or of the pathogenesis of the seizures. The former, practically, does not exist<sup>19</sup>, and, indeed, if we consider the nature of essential, genuine epilepsy with unbiased mind, we will all agree on the following facts: (1) Here is a disease, beginning in the first or second decennium of life, lasting the whole lifetime of the afflicted individual, without causing death directly. No other known morbid entity does this. (2) No definite and constantly occurring pathological findings have been established as yet. (3) The striking clinical intermittency of its attacks, which in many cases are distinctly stereotyped, points to a teratological defect in some portion or constituent of the central nervous system, rather than to acquired morphological changes.

For any given convulsive seizure, psychic or somatic, the essential thing is to decide whether we have to do with an epileptic manifestation or with the epileptiform symptom of some other toxic, infectious, or degenerative disturbance of the nervous system. However, it is beyond the scope of my present paper to expatiate upon this part of the diagnosis, and I shall content myself with the elucidation of the second part in importance, that is: Which form of epilepsy does a given symptom betoken. To answer this question, I shall follow here with the resemblances between motor and psychic seizures, in order to show the common trunk from which both spring:

1. Essentially periodic recurrence of attacks.
2. Paroxysmal more or less marked disturbance of consciousness, up to its complete suspension.
3. Beginning of real seizures, psychic or

motor, and usually also their cessation, brusque, unmotivated<sup>20</sup>.

4. Concomitant amnesia, either simple or retrograde, i. e., preceding the attacks for several hours or days. This lack of recollection is *very significant* for epilepsy.

5. Tendency to automatism, dual existence, hypnotic state, sudden outbreaks of anger, fear, etc.

6. Some sort of aural prodroma may be found in most cases, upon close inquiry.

7. In every case of true epilepsy, there is marked ancestral and collateral heredity to be found, regardless of the variety of its manifestation.

8. *There are certain, permanent character changes to be found in almost every epileptic*<sup>21</sup>: Pious inclination, a pedantic disposition, lowered morality<sup>22</sup>, especially a tendency in the character to impulsive, often brutal actions. Indeed, the epileptic murderer, or thief, pyromaniac, differs materially in his methods of perpetration from other criminals. Alienists, good jurists, and detectives are unanimous in this regard.

9. The memory is more or less extensively impaired in every case of epilepsy, especially in the psychic or silent forms<sup>23</sup>.

In conclusion, I hold as points in the diagnosis of psychic equivalents the following:

1. Careful study of the parental, ancestral and collateral history of the patient, as well as thorough search in his personal antecedents.
2. Complete, or, partial exclusion of co-existing morbid conditions that can give rise to epileptiform symptoms, such as infantile encephalopathy, alcoholism, syphilis, general paralysis, on the one hand, and automatism and the stigmata of degeneracy on the other (Lombroso).
4. Remember that hysteria, or neurasthenia, and any of the psychoses may co-exist with psychical epilepsy, and obscure or cover up more or less the symptoms of that latter disease.
5. *Distinguish carefully between psychic equivalents and inter-paroxysmal, or post-*



*epileptic psychoses. The medico-legal importance of this distinction is enormous.*

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### SOME NEWER CONCEPTIONS OF THE NATURE AND THE MANAGEMENT OF BRIGHT'S DISEASE.\*

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#### NOMENCLATURE AND DEFINITION.

The terms Bright's disease, nephritis and even albuminuria are not uncommonly em-

ployed synonymously. It appears almost trite to correct this popular misconception by the statement that Bright's disease is a systemic disorder that usually, but by no means invariably, produces nephritis; that nephritis is often due to Bright's disease but may also be due to a great number of other causes; and that albuminuria is a common, though not a constant, symptom of any form of nephritis. The term "Bright's disease of the kidney" is, therefore, not tautological, as many claim, although "the kidney of Bright's disease" would be a more correct expression. The term Bright's disease could with advantage be eliminated altogether from modern medical nomenclature, for what Bright originally described included many renal disorders that have since been shown to be morbid entities *sui generis*. To retain the term, therefore, means confusion.

The cardinal symptoms of Bright's disease in the newer sense are, in the order of their frequency and sequence, (1) cardiovascular; (2) nephritic; (3) cerebral; (4) retinal.

The cardio-vascular signs must appear first. The idea that the kidneys are always primarily involved, that as a result of renal inadequacy certain excrementitious bodies are retained, and that these produce the changes about the heart and arteries, the eye ground, the brain, does not apply to Bright's disease as I interpret it. This sequence of events unquestionably occurs in many forms of nephritis, but these are not cases of Bright's disease, for many nephritides run their course without cardiovascular changes, and above all, without retinal or cerebral symptoms.

The intoxication of the heart and arteries, with the resulting high blood pressure, leads to nutritional disorders in different parts of the body. It is not surprising to find that particularly those organs that are supplied by *end arteries* are chiefly involved, for in them vascular disturbances must first produce nutritional derangements. Chief among the organs supplied by end arteries are precisely the kidneys, the retina, and the brain, and I think this explains the fre-

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quent involvement of the kidneys, eyes and brain in Bright's disease. The fact that the retina and the brain are often injured before the kidneys, that cases of Bright's disease run their fatal course occasionally with practically no renal changes, but with serious apoplectiform brain lesion and retinitis, bears out this conception and constitutes a valid argument against the common belief that the nephritis is the primary event and the determining phenomenon of the disease.

I can best illustrate the idea I am trying to convey by the statement that one is just as little justified in claiming that in Bright's disease the kidneys are always the first organs affected, and that as a result cardio-vascular, retinal and cerebral symptoms develop, as one would be justified in claiming that in this disorder the retina is first diseased, and that as a result of the retinitis the heart, the arteries, the brain and the kidneys became diseased.

That various symptoms, that one might call tertiary, follow the nutritional and degenerative changes in the various organs affected, need hardly be emphasized. I refer, e. g., to the edemas, the retention of solids and water, and the other evidences of renal inadequacy that are consecutive to the nephritis.

#### CAUSES.

I am an ardent convert to the belief that Bright's disease is produced by circulating toxins. Of the exact chemical character of these poisons we know very little. Their presence, however, is clinically revealed to us by their manifestations. There seems little doubt from the experimental evidence at our disposal that some of them are intermediary poisonous precursors of non-toxic terminal products of metabolism, that have escaped oxidation. I refer, for instance, to the group of purin bases, including such bodies as xanthin, hypoxanthin, etc., that are normally converted into innocuous uric acid and are eliminated as such. These purins or alloxuric bases, as I showed in 1900 ("The Role of the Alloxuric Bases in the Production of the Cardio-Vascular Changes of Nephritis." *American Journal of the Medical Sciences*, 1900), are capable,

when injected in small doses for long periods of time, of producing the changes about the heart and arteries and kidneys that are so characteristic of Bright's disease. Many other products of perverted or arrested metabolism, as well as several inorganic salts when present in excess, and many poisons of gastro-intestinal origin, are capable of exercising the same effect.

The source of these bodies is two-fold, namely, the gastro-intestinal tract and the proper tissues of the body. There is no more prolific source of poisons than a disordered bowel. Digestive disorders not only directly lead to the formation in the intestines and the absorption into the blood and tissue juices of a mass of abnormal and highly toxic degradation-products of the proteids, fats and carbohydrates of the food, but they also indirectly lead to *hepatic insufficiency*, a disorder that is instrumental in causing a flood of poisons to circulate through the organism. It is not surprising to find that the liver cells are so often impaired in their function when the gastro-enteric tract is disordered, for all the poisons generated there are sucked up by the root tendrils of the portal tree, and we are carried through an intricate labyrinth of closely interwoven capillaries around and through and into each hepatic cell; for a time the latter may withstand the stream of toxic matter and can properly exercise their disintoxicating function, but an overwhelming mass of putrefactive material flooding them at one time, or small quantities of putrid excrement irritating them chronically, must needs impair their function and render them inadequate to protect the organism as a whole from bowel poisoning. When this occurs, intestinal toxins filter through into the circulation beyond and there can exercise their deleterious effects upon the heart, the arteries, and also those organs that chiefly supplement the disintoxicating function of the liver by eliminating poisons, namely, the kidneys.

One other consequence of this hepatic insufficiency is the incomplete elaboration of the aforesaid intermediary products of metabolism that reach the liver from the general

circulation. When the liver cells can no longer properly perform their many functions because they are poisoned from the bowel, then these bodies that circulate around each hepatic cell in a network of lymph and blood-channels as intricate as the capillary branches of the portal system can no longer be converted into innocuous end products, like urea, uric acid, creatinin, etc., but are returned to the general circulation unchanged as poisonous ammonium salts, purin bases, and a host of other bodies that, unless rapidly eliminated through the kidneys, produce a chronic auto-intoxication.

Finally, the character of the bile becomes changed, its physical properties are perverted, it no longer flushes the bile channels in a broad stream, but often becomes more thick and viscid, so that some diapedesis of poisonous bile constituents from the bile into the blood capillaries occurs; the change in the quantity and composition of the bile reduces its germicidal power so that intestinal putrefaction is increased, or, at least, not checked; constipation supervenes, right disassimilation of the enteric contents is prevented; the assimilation of fats is decreased, and consequently the general nutrition is disturbed. In this way, a vicious circle is closed, and both in the bowel and in the tissues at large poisonous bodies continue to be formed that are capable of producing numerous disorders, among them many of the symptoms of Bright's disease.

#### TREATMENT.

Based on the above conception of the gastro-enteric, and by implication, hepatic origin of many cases of Bright's disease, an intelligent prophylaxis and a conservative treatment of early stages of the disease should be directed towards the correction of the disorders in the bowel and the liver. I am a firm believer, from my clinical observations, in the digestive origin of many—I might say most—cases of Bright's disease, and I believe that in numerous cases early attention to the digestive tract will check the progress of the disease, and not infrequently produce a restitution to normal even when the heart is already considerably

hypertrophied, and when the kidneys are already showing evidence of nephritis.

There are other cases of Bright's disease that are due to obscure metabolic perversions that we do not understand; these are more difficult to handle because we have nothing tangible to attack, for who can intelligently combat a tissue anomaly that is hereditary in character and in which a dark neurosomal element manifestly plays a commanding role? Here the prognosis, in the light of our present knowledge, is bad, and all treatment of necessity symptomatic.

Symptomatic treatment in Bright's disease is not, however, the conventional treatment of the kidneys, but the treatment of the *heart* and of the *arteries*. This is clear from what has been stated above. Later, when nephritis is established, it becomes incidentally necessary, of course, to counteract the bad effects exercised upon the organism as a whole by the inadequacy of the renal function.

The management of Bright's disease may fitly, therefore, be discussed under these several heads: *First*, prophylactic and causal, directed against the perversion of the digestive and hepatic functions; or, when possible, against the development of the aforesaid obscure metabolic disorders. *Second*, symptomatic, directed primarily against the development of cardio-vascular changes; secondarily, against the results of nephritic changes. The symptomatic treatment of the common cerebral and retinal changes is synonymous with the treatment of the heart and arteries. *Third*, treatment of the patient as a whole; this is of paramount importance, particularly as regards the maintenance of general nutrition by adequate, if necessary mathematically regulated feeding, and as regards the prevention of nervousness and of those great perverters of all functions viz: depression, fear and worry.

It is not my intention to discuss all the elements of the management of a case of Bright's disease; I merely want to emphasize some of the therapeutic means that have been evolved from the newer reasoning out-



lined above, and that have proven useful in my hands.

#### TO PREVENT INTESTINAL PUTREFACTION.

Aside from the common dietetic rules, the lavage of the stomach, etc., two remedies have been found of particular value, viz., the sulpho-carbolate of zinc and the bile acids. While neither of these substances constitutes an intestinal antiseptic, I do believe that the proper administration of either of these drugs can check at least the putrefactive decomposition of albumins; and as the albumins furnish the bulk of the most toxic intestinal bodies something is gained hereby. I have been in the habit of giving the sulphocarbolate of zinc in one grain doses at frequent intervals, together with some twenty grains of bismuth subnitrate in the twenty-four hours. The bismuth salt I utilize merely as an indicator of the action of the sulphocarbolate of zinc, in the following sense: It is well-known that the putrefactive disintegration of albumin leads to the formation of sulphides; the latter combine with bismuth salts to form black bismuth sulphide; hence the administration of bismuth by mouth practically always leads to the formation of black stools, because there is nearly always some putrefaction going on in the bowel. If, however, sufficient sulphocarbolate of zinc is given, all putrefaction will stop, and the stools, despite the administration of bismuth, do not become black. The proper dose, therefore, of sulphocarbolate is *enough* to prevent the formation of bismuth sulphide in sufficient quantity to color the feces. When this is accomplished, it will be found that the urinary evidence of bowel putrefaction also disappears, as manifested by the reduction of the indican, and the other conjugate sulphates, the compound glycuronates, and the compound glycocolls.

The administration of bile salts is of value, because these bodies possess marked germicidal properties and, moreover, constitute a very efficient cholagogue and stimulant of the hepatic function. Their administration may, therefore, be imagined to aid in combating casually and directly the development of hepatic insufficiency and its

consequences. At all events, their effect upon the constitution of the feces and the urine as far as the elimination of putrefactive bodies is concerned is almost as marked as in the case of sulphocarbolate of zinc. I have been so far unable to find that other so-called intestinal antiseptics act as well or as rapidly as the two named bodies.

#### TO STRENGTHEN THE HEART AND REDUCE THE BLOOD PRESSURE.

Notwithstanding the chronic character of Bright's disease, I am not afraid to give digitalis from the beginning, and to continue its use for years. Large doses are unnecessary and even harmful, because the heart is already over-stimulated, but small doses, and by this I mean one drop of the tincture three times a day, influence the heart's action in a favorable manner, not by prolonging the diastole and enforcing the systole, but by rendering the heart less susceptible to the disturbing stimulation of circulating toxins. That digitalis possesses this power has been demonstrated experimentally. I give small quantities of digitalis not, therefore, in order to stimulate the heart, but in order to regulate it and to protect it from the effects of a chronic intoxication. The heart does not thereby lose its power to respond to larger doses of digitalis, so that the objection that one should keep digitalis to the last, in order to "have something in reserve," becomes invalid.

Better than digitalis and its congeners is the exercise treatment of a heart in Bright's disease that needs stimulation and whose muscle tone is beginning to flag. A Schott treatment often accomplishes wonderful things in Bright's disease; unfortunately it is not easy to carry out unless one can absolutely control the patient. Where I have been able to apply it, the results have been excellent throughout, even upon the kidneys; the albumin almost invariably decreases, and the excretion of solids increases within a short time.

To reduce the blood pressure, nitro-glycerine is the favorite remedy, and justly so. I have recently begun to use erythrol tetranitrate, a preparation that seems to grant a

prolonged vaso-dilator effect. It is good practice to keep patients under the influence of this drug for long periods of time, particularly if one is attempting in the meantime to discover and remove the underlying cause of the increased arterial tension. As far as the nephritic manifestations are concerned, vaso-dilation is of much value, for one may, I believe, say axiomatically that as soon as the blood pressure falls in the kidneys, the albuminuria decreases, and the renal epithelia regain their tone and become better able to perform their functions.

Valuable adjuvants to the drug treatment of high arterial tension are certain physical means, and I cannot say enough in praise of the hot bath, rest in a warm bed, judicious life in a warm, dry climate and massage; in fact, of any measure that causes prolonged dilatation of the superficial blood vessels. To enter into the finer mechanism of this effect, to discuss the exact indications for the employment of these different measures in varying individual cases, would lead me too far.

#### FOUR POINTS IN THE TREATMENT OF THE NEPHRITIC MANIFESTATIONS OF BRIGHT'S DISEASE.

I wish to emphasize, because they are modern. I refer (1) to the use of a more liberal diet (2) to the restriction of liquids; (3) to the withdrawal of chlorides; (4) to the so-called surgical treatment of Bright's disease.

#### LIBERAL FEEDING IN THE NEPHRITIS OF BRIGHT'S DISEASE.

In feeding any case of nephritis, two fundamental axioms should be followed, viz.: (1) To give a diet that is least irritating to the kidneys. (2) To adequately nourish the patient. For by following the first rule we place the kidney, relatively speaking, at rest, we spare the diseased organ; by following the second rule we bestow upon the organism as a whole sufficient strength to combat the disease process, and to undertake regeneration where degeneration has taken place. In all acute forms of nephritis that run a short course, the sparing of the kidney is the most important task, as the organism has enough

reserve pabulum in storage to maintain adequate nutrition during the short duration of the disease; in such cases underfeeding or even starvation of the patient is not only permissible, but good practice, for the less of excrementitious material the kidneys are forced to eliminate, the more rapidly do they resume their normal function. One may say in a broad sense that the daily amount of feeding, expressed in caloric values, should be inversely proportionate to the presumable duration of the nephritis. Hence the more chronic the nephritis, the more nutritive should be the diet, and as the nephritis of Bright's is the most chronic variety we have to deal with, a case of Bright's disease should receive daily the full caloric value in his diet that is required to maintain nutritive equilibrium, i. e., at least 30 calories per kilo of body weight.

Whereas, therefore, in certain acute and subacute forms of nephritis a milk diet is permissible, even useful—for, I may add in parenthesis, a milk diet reduces intestinal putrefaction and hence removes a prolific cause of renal irritation—such a regime, as I have pointed out elsewhere (*The Dangers of an Exclusive Milk Diet*, etc., *Medicine*, May, 1903), is to be condemned in the chronic forms of nephritis, and in particular in the nephritis of Bright's disease. The chief arguments against this popular mode of feeding are these: (1) In order to adequately nourish the patient with milk, enormous quantities must be given, and when enough milk is given the albumins are much in excess (200 to 300 gr. instead of the normal 100 gr. in the twenty-four hours); this imposes an excessive task upon the kidneys and renders the restriction of albumins that is attempted by the withdrawal of meats fictitious. (2) The administration of large quantities of milk causes flooding of the heart and arteries with water, and hence must act deleteriously upon an already overtaxed cardio-vascular apparatus. (3) Milk is deficient in iron and an exclusive milk regime, if carried out for long periods of time, leads to deficiency of hemoglobin and all the dire results entailed thereby. (4) The constant

dilution of the gastro-enteric secretions is harmful. And (5) an exclusive milk diet must needs sooner or later become monotonous and distasteful, and hence deprive the patient of the psychic stimulus of appetite that is all-important for proper digestion.

For all these reasons an exclusive milk diet should be condemned in Bright's disease. There is, moreover, no compelling reason why a mixed diet should not be given. It is puerile and altogether unscientific to postulate that the albumin given by mouth will reappear as such in the urine, and that the more albumin the patient eats the more will he secrete—and still this prejudice exists in the minds of many. A diet containing variety and above all a diet of sufficient caloric value to nourish the patient should be carefully selected, and only those articles excluded that we know lead to the formation of urinary end products that are eliminated with difficulty, and hence can be assumed to irritate the kidneys when they are diseased. The details of this selection cannot be given within the narrow frame of this article.

#### THE RESTRICTION OF WATER DRINKING.

This point has been touched in discussing the dangers of an exclusive milk diet above. Regarding Bright's disease as a primarily cardio-vascular affair, it stands to reason that the flooding of the heart and arteries with much liquid can only increase the arterial tension, and overwork the heart. It is common practice to give much water in all forms of nephritis (witness the many waters on the market that are sold as "cures" for Bright's disease, etc.), the object being presumably to "flush out the kidneys." I regard this as fictitious, excepting in the convalescent stage of certain clearly circumscribed varieties of parenchymatous nephritis. The first thing the kidneys stop eliminating when they become diseased is water; hence water in this stage passes the kidney parenchyma with difficulty, and to attempt to force it through is to irritate the kidneys when they should be kept at rest. The same axiom modified applies to subacute forms of the disease. In late stages of interstitial nephritis, it is

true, polyuria appears, but the urine contains few solids in solution, and there is practically nothing to "flush out." Here, then, it is of no value to the kidney, and directly harmful to the heart, to give large quantities of fluid, and in this way to increase the flow of urine.

That water is irritating to the kidneys when they are diseased is manifested by the good effects exercised in many cases of nephritis by sweating. There is no evidence to show that the sweat of nephritics contains much of toxic bodies; it does contain some urea, a moderate quantity of common salt, and above all abundant water. The chief advantage, therefore, of sweating seems to be to rid the organism of the *water* that the kidneys cannot properly eliminate. The common habit, therefore, of sweating a patient, on the one hand, and giving him abundant water, on the other, is irrational, for to do this is to neutralize the good effect of the sweating, to irritate the kidneys and to overtax the heart and arteries. I have made it a broad rule to gauge the water intake largely by the water output—carefully considering all the while the particular requirements of each case. I never force water drinking, but am always more inclined to restrict fluids.

#### THE WITHDRAWAL OF SODIUM CHLORIDE.

It is a well-known fact that nephritic kidneys commonly fail to properly eliminate sodium chloride, i. e., ordinary table salt. A very ingenious theory has been advanced to show that this retention of chlorides in nephritis can in part be incriminated with the production of edemas; the idea being that sodium chloride in the tissues requires a certain amount of water to hold it in solution in such dilution that the normal molecular concentration (i. e., the osmotic pressure) of the blood and tissue juices is not changed (one of the chief functions of the kidney being that of an osmo-regulatory apparatus, intended to eliminate salts when the blood concentration becomes too great). It is postulated that the sodium chloride retained in the tissues draws water from the blood by a process of osmosis, and that hence edemas develop. Basing on this the-



ory, the attempt has been made to restrict the ingestion of chlorides, i. e., to withdraw table salt from the diet for the purpose of reducing edemas, by giving the kidneys a chance to slowly get rid of the accumulated chlorides. Clinically, this experiment has quite often given favorable results, and I have, in common with many others, repeatedly seen edemas disappear (and incidentally albuminuria often decrease) when the chlorides were excluded from the food. On the other hand, edemas in such cases can often be caused to reappear when salt is again given. As 100 grains of common salt require about three pounds of water to form the proper physiological solution in the body, it is clear that any sudden increase in the weight of the patient may mean salt-and hence water-retention, and should put us on our guard for deep edemas; and above all it should induce the careful clinician, tentatively, at least, to withdraw the chlorides from the food.

#### THE SO-CALLED SURGICAL TREATMENT OF BRIGHT'S DISEASE.

The operation of decapsulating or splitting the kidney for the cure of Bright's disease may be mentioned merely to be condemned as altogether irrational. I do not consider it impossible that nephrotomy or capsule-splitting, by temporarily relieving tension, may improve the blood supply to the kidneys, and hence may restore for the time-being some functional activity to the organs; and that this improvement in the renal function may become manifest by a decrease in the albuminuria and an increase in the excretion of solids and water and a reduction of nephritic edemas. When we consider, however, that Bright's disease is a systemic disorder, and that the nephritis, as outlined above, is merely one of many symptoms of this general disease, it becomes apparent at once that any treatment directed towards the kidney alone, whether surgical or otherwise, is purely symptomatic, and can in no way be considered as curative. Moreover, I fail to find in the literature a single case that can clinically be considered a true case of Bright's disease that has ever been per-

manently benefited by decapsulation of the kidneys. The majority of case reports are unfortunately so inaccurate, as far as the diagnosis of the disease is concerned, that they are practically without value in deciding the uses of surgery in the treatment of Bright's disease.

#### Discussion on the Paper of Dr. Croftan.

**Dr. Frank Billings:** Mr. President—It is getting late, and we have another paper to be read. I do not want to take up very much time, yet this is such an important subject that we should not let it go by without saying something on it now or at some subsequent meeting. No subject in private practice is more important than this one, and while I appreciate what Dr. Croftan has said, I am sorry that I cannot agree with all he has said. In my experience the treatment of chronic nephritis of Bright's disease in its different types is not so simple as he has stated. I would begin by saying axiomatically, as he did in closing, that in the treatment of Bright's disease I would treat the individual as to diet, medication, and what not, rather than say I would treat his heart and blood vessels, because while there are types of Bright's disease that differ individually to such a degree that anyone, who undertakes the treatment of Bright's disease as it has been in the past, and gives the patient, because we find albumin in the urine, a certain diet or certain medication, and disregards the individual, whether that diet be as Dr. Croftan has said one that nourishes the patient, without regard necessarily to its albuminous or other nature, or if we give digitalis or the vaso-dilators without regard necessarily to the individual, he is not doing his duty to his patients. First of all, therefore, in my conception of the study of the kidneys of those dead of Bright's disease or nephritis, and in my clinical experience in watching the course of these diseases, I cannot believe what Dr. Croftan states, that in many cases, as I understood him to say, or in most of the cases of Bright's disease, the proper treatment is directed to the cardio-vascular system. One of the most significant facts in relation to Dr. Hamilton's paper to-night in reference to the constant presence of streptococci in throats, and the fact that occasionally clinically streptococcic infection of throat or other local spot in the body in an individual may mean septicemia with a local condition, nephritis. My conception of nephritis of the future is that in the great majority of cases it is the result of bacterial invasion. In spite of what Dr. Croftan has said, I shall continue to treat my patients with the belief that I have always had, which agrees particularly with him, that in that type of diffuse chronic kidney inflammation—Bright's disease, perhaps, as he states—with cardio-vascular changes, it is well, if possible, to maintain the cardio-vascular integrity by individual treatment, in diet, with or without drugs, as the case may be, and I would study that individual's blood pressure and nutrition as one would a case of diabetes.

That is my conception of the rational treatment of Bright's disease. In the parenchymatous form, which occurs so frequently as a complication, or as a coincidental or sequential part of the infectious diseases, like diphtheria and scarlet fever, there is bacterial invasion, the disease comes on usually rapidly without cardio-vascular fibrosis and hypertrophy of the heart. There is, instead of fibrosis in these cases, fatty degeneration everywhere, and these cases need entirely different treatment from the so-called Bright's disease, with its cardio-vascular changes. I respect Dr. Croftan's opinions and the good work he is doing, and my criticism of his paper is only my opinion expressed in all friendliness to him.

**Dr. Arthur R. Elliott:** I should like to say a few words on two points, namely, the etiology of Bright's disease, and the treatment of the cardio-vascular system, as suggested by Dr. Croftan. I am myself a thorough convert to the toxic theory of the etiology of Bright's disease. I make no exceptions to this statement. The acute nephritis, which accompanies the exanthemata, notably the scarlatinal form and the nephritis of diphtheria, if we are to believe the investigations of such men as Furbringer and Neumann, is not due to the localization in the kidney of bacteria, but to irritation of the kidney, the kidney being overwhelmed with bacterial toxins which are elaborated in the system from the activity of the streptococcus or whatsoever germ is operative.

In interstitial nephritis I have long held (and three years ago presented to the American Medical Association a consideration of the etiology of nephritis) and maintained the theory that chronic interstitial nephritis is the result of prolonged irritation of the kidneys from a chronic, low-grade poisoning from the bowel, the result, as Dr. Croftan has said, of absorption from the bowel of toxins elaborated there as the result of activity of putrefactive bacteria.

The late Dr. Purdy used to say, regarding chronic interstitial nephritis that 75 per cent. of cases died from heart failure, and he insisted upon the importance of treating the individual from a cardiac standpoint. If we observe closely the clinical history of cases of chronic interstitial nephritis, we find they get on very well; polyuria continuing edema remaining absent; so long as the heart remains adequate; but just as soon as the heart shows evidence of inadequacy the patient becomes ill. Perhaps, for the first time, in his experience, edema develops, and polyuria gives place to relative anuria, and the patient is in danger. This is the common history of cases of chronic Bright's disease of the interstitial type. In chronic parenchymatous nephritis the cardio-vascular changes are not usually progressive, but still exist, and digitalis and cardio-vaso-dilators are indicated, but not so imperatively or for continuous administration as they are in chronic interstitial nephritis. I do not agree with Dr. Croftan that the administration of small doses of digitalis early in the case that shows cardio-vascular development is indi-

cated; but prefer to reserve digitalis for the period of cardio-vascular inadequacy and evidence of heart break-down.

**Dr. Croftan,** in closing, said: I have nothing to add except to correct one little misconception. The reason why Dr. Billings takes issue with me on one or two points is because we do not exactly agree on the nomenclature. Some of the recent authors, and some of the older ones, too, do not speak of Bright's disease, unless there are certain characteristic cardio-vascular changes together with the nephritis. Nephritis of bacterial origin is a disease *sui generis* which may or may not lead to cardio-vascular changes, but in the majority of cases does not. I should not even call for instance a myocarditis, with other cardio-vascular changes, which is distinctively consecutive to a typhoid nephritis, a case of Bright's disease. It would be best of all if we discarded the term Bright's disease all together—it is so often misleading.

If I did not make myself clear in regard to the necessity of individualizing in each case, I want to do so now; I hope I made it clear that I do not treat every case in a routine manner, with heart stimulants and vaso-dilators; of course, "I make the punishment fit the crime," and insist that each case be studied as an individual and treated accordingly.

## WHY DIGITAL EXPLORATION THROUGH THE INTERNAL INGUINAL RINGS SHOULD BE MADE IN CONJUNCTION WITH EVERY ALEXANDER OPERATION.

BY A. GOLDSPOHN, M. S. M. D., CHICAGO.

Prof. Gynecology Post Graduate Medical School,  
Attending Gynecologist to the German, Post  
Graduate and Charity Hospitals of Chicago.

Among the general rank of modern gynecologists who are properly guided in their own views and practice, by correct principles in pathology and by a due consideration of the anatomy and physiology of the female generative organs, the following proposition is quite generally accepted: that the round ligaments of the uterus are the only correct means to deal with in surgical procedures for the cure of retroversion and retroversio-flexion of the uterus, in women who retain a capacity for conception, because they *alone* undergo both *evolution* (or growth) and *involution*, with the uterus during gestation and after labor respectively, while all so-called "artificial ligaments" can only stretch during gestation but cannot

\*Read at the 54th Annual Meeting, May 17, 1904.

shorten up afterward, and therefore become useless and often harmful in causing intestinal obstruction; that therefore the only proper question for discussion on this subject now is: *How to use the round ligaments.* This question becomes a very important issue in view of two unfortunate facts about the round ligaments:

(1) That they are not of even strength throughout, but taper very much from within outward, being at least six times stronger at their origin from the uterus than at the point where they enter into the internal inguinal rings.

(2) That by ordinary abdominal section and by vaginal celiotomy the thick median portions only of the round ligaments are accessible while the vulnerable outer or peripheral portions, being out of reach, cannot be strengthened or fortified against stretching again, no matter how much the thicker median portions are shortened.

Therefore, rational shortening of these ligaments with elimination of their distal weaker portions can only be done via their natural channels, the inguinal canals, from without.

Bi-inguinal shortening of these ligaments, therefore, stands upon a solid anatomical foundation, and is impelled by most important practical interests, provided, that equally important conditions or indications within the pelvis are also attended to. In order to this exploration at least, with a finger through the subperitoneal inguinal rings should be made in conjunction with every Alexander operation for the following reasons:

First. In many cases the uterus is, indeed, freely movable, but adhesions of one or both ovaries or abdominal ends of the tubes are present but remain undiscovered, unless the parts are explored by a finger passed through a slit in the detached peritoneum and internal inguinal ring. Adhesions about the ovaries and tubal ostia are far more frequent than adhesions about the uterus itself, because those structures are first affected in inflammatory process. Here infection is first implanted upon the peritoneum when it is transmitted by its most

frequent channels,—the tubes— from the endometrium inward; and many indeed are the slighter attacks of peritonitis about the adnexae that are arrested before the peritoneal envelope of the uterus becomes involved. Furthermore, the uterus is a larger body and is so situated as to undergo greater excursions of movement physiologically, in response to the variable degrees of distension of the rectum and bladder and the play of intra-abdominal pressure; therefore it tends to liberate itself from adhesions more than the adnexae do.

For these reasons the tubes and ovaries are often entrained more or less with adhesions that are not detected because the uterus is freely movable and the appendages appear negative, i. e., they cannot be made to float enough to trace their outlines and to determine their size and consistence with a finger in the vagina in bimanual examination, but the general absence of marked local tenderness and other signs leads to the conclusion that the parts are fairly normal; while they are actually adherent in a descended position, having become so since the uterus was retroverted. If now the fundus uteri be raised and brought forward by shortening of the round ligaments, the adhesions to the adnexae will be drawn upon, and they will not only counteract the round ligaments but also cause discomfort after the operation.

Secondly. In order to enable the round ligaments to exercise their utility in holding a retroverted uterus forward permanently and not to permit a return of displacement after later childbirths, it is necessary to change their extremely lateral and circuitous route to a more direct one from the fundus forward to the internal inguinal rings and Poupart's ligaments. This is done more or less in all Alexander operations, but altogether too imperfectly in that type of the operation in which it is claimed that the peritoneum is not opened.

From observations upon this point during bi-inguinal shortening of the round ligaments in at least 125 cases of retroversion without adhesions to the uterus, i. e., readily reducible cases, I have found that



after the inguinal canals have been laid open and the round ligaments dissected up and drawn out as far as possible (even to a length of 4 to 5 inches) without opening the peritoneum, if now, at this point in the operation, an index finger be passed through a slit in the peritoneum and the inguinal rings, into the pelvic cavity and held against the fundus uteri while the supposedly well shortened ligament is drawn upon with the other hand, it will scarcely impart a forward movement to the uterus at all, in from  $\frac{1}{5}$  to  $\frac{1}{4}$  of all individual ligaments so tested, in simple cases. This is because the round ligament pulls still from its entanglement in the broad ligament at a point approximately midway between the uterus and the pelvic wall. If now the round ligament be left in this rectangular course and shortened, it is clear that it will pull sideways more than forward upon the uterus; and it will not prevent a recurrence of retroversion, particularly in case of a retroversioflexion, or when the fundus is large and heavy, or when the sacro-uterine ligaments do not hold the cervix well back into the hollow of the sacrum. To relieve this condition and to avoid these dangers, it is necessary to liberate the round ligament better from the broad ligament, so that it may have the advantage of a more direct course from the fundus forward. In order to do this the parts must be drawn forward into the dilated inguinal ring, where the round ligament can readily be liberated from the peritoneal investment which is common to it and the broad ligament, chiefly by blunt dissection assisted occasionally by a slight clip with scissors. As stated, this becomes necessary in about  $\frac{1}{4}$  of all these ligaments so shortened, if thorough work shall be done.

When an operator has learned to discover the complicating condition here spoken of, by exploring with a finger in the pelvis and has relieved it in simple cases in the manner stated, he also soon learns how readily he can go farther and sever adhesions to the uterus and appendages in worse cases, how he can draw the tube and ovary of each side in succession into the corresponding inguinal ring for reconstruction or removal, thus

giving the much larger class of complicated but aseptic retroversions also, the superior benefit of a permanent cure of their displacement, one that stands the double test of subsequent labors in the most harmless and natural manner. All this can be done without cutting anything more in the abdominal wall, than is needed to shorten the ligaments properly, in the simplest cases, owing to the elasticity of the muscles that bound the subperitoneal rings.

For a description with illustrations of the technique of this bi-inguinal celiotomy for complicated but aseptic retroversions, I must refer to my article in *Amer. Jour. Obstetrics*, Vol. 41, No., 5, 1900. Suffice it to say, that there is no cutting of any tissue or structure that has a capacity to hold anything. Only the skin and areolar tissue down to the aponeurosis of the external abdominal oblique muscle are incised. The latter all important structure is split open bluntly from the lateral acute angle of the external inguinal ring upward and outward. The round ligament is picked up in the external inguinal ring and is traced along the inguinal canal, thus laid open, to the internal ring. The latter will always let an index finger pass through it very readily, and two fingers also after some stretching with fingers or forceps. But one finger introduced on both sides (one after the other wound is closed) is usually sufficient to liberate the internal organs from adhesions and to draw the tube and ovary of each side into the opening for inspection and for such surgical treatment as they may require. The stronger intrapelvic portion of the round ligament is broadly anchored against the posterior surface of Poupart's ligament on each side, during the closure of the wound in four layers of sutures, which are so placed as not to cut off the circulation from the round ligaments and to cover the region of the internal ring, and to solidly occlude the inguinal canal with liberal quantities of the internal oblique and transversalis muscles.

In over 200 of these cases, in the majority of which vaginal and cervix plastic operations were also done at the same time, and

among which 105 of the earlier successive cases have been subjected to a special review examination, after an interval varying from 16 to 23 months after operation, I have had only one death and one only recurrence of retroversion. Subsequent hernia has been most carefully looked and inquired for. It certainly does not exist in three-fourths of all my cases, in whom that feature is known to me, while in at least a dozen cases an impending or a fully developed inguinal hernia has been incidentally cured by the technique which is observed by me in the closure of every such wound. At least 14 cases have given birth to children normally, excepting a breach presentation in one of them, and in all of them, later examinations have shown the uterus in each case, to be in good normal anteversion.

#### DOCTORS AND CIVIL SERVICE.

It may be that the board appointed to examine the applicants for positions on the county hospital staff was a bad, a dreadfully bad, board. But this is not the question.

It may be that Mr. Foreman, the retiring chief executive of the county, was mischievously, maliciously, and malevolently determined to deprive his successor of the privilege of filling the positions on the county hospital staff by appointment. But this is not the question.

It may be that the examination contemplated was a mere pen and ink affair that could not adequately test an applicant's personal character, practical experience, and diplomatic power. But this is not the question.

The question is whether the doctors of the county hospital shall be chosen by the president of the county board through personal preference or by a board of physicians after professional scrutiny.

The president of the county board, when he is a man like Mr. Foreman or like Mr. Brundage, will try to do the right thing. But he is not a doctor. He has no technical acquaintance with the subjects in which the members of the county hospital staff should be proficient. He is a politician. He is

assailed by innumerable recommendations from other politicians and from prominent and amiable citizens who want to affect his appointments. He is driven in the long run to a compromise between expediency and efficiency.

If, however, he appoints a board of reputable physicians to make the county hospital appointments for him, he is at once relieved of the duty for which, of all his duties, he is the least fitted. The appointment of physicians is then in professional and not in amateur hands.

The method by which the board of physicians shall test the qualifications of candidates is another matter. The merit system is not a perfected science. At present it consists altogether too much of pen and ink. The questions propounded to candidates for the position of assistant chief of police, for instance, are questions more likely to produce a good city statistician than a good police officer. But a change is impending. The theoretical, academical civil service examination is simply a stepping stone to better things. It was perhaps inevitable at first, because a new era always brings its raw, callow experiments. The board of physicians appointed to get good men for the county hospital should be permitted to adopt such methods of examination as will bring good men to the front. The word examination does not necessarily mean a mere performance with pen and ink at a desk. It can logically be extended to include a wide inquiry into an applicant's character, experience, and practical success. For instance, just as a suggestion, an examination for doctors on a basis of ten points might give six to experience and only four to a written quiz on the specialty, say neurology, in which the applicant was expected to serve the county hospital patients.

These things, however, are matters of detail and of development. The fundamental demand is that some attempt shall be made to choose doctors on merit through professional inquiry and not on influence through amateur appointment. The next county board should not underestimate the strength of this demand.—Chicago Tribune Editorial.

# The Illinois Medical Journal.

The Official Organ of the State Medical Society.

DECEMBER, 1904.

NEXT ANNUAL SESSION, ROCK ISLAND, MAY 16, 17, 18, 1905.

## OFFICERS:

PRESIDENT—W. E. QUINE, Chicago.

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### SECTION ONE.

Practice of Medicine, Medical Specialties, Materia Medica, Therapeutics, Etiology, Pathology, Hygiene, State Medicine and Medical Jurisprudence.

M. S. Marcy ..... Chairman  
Peoria.

Fred Zapffe,  
1764 Lexington st., Chicago.

### SECTION TWO.

Surgery, Surgical Specialties, and Obstetrics.

Geo. L. Eyster.....Chairman  
Rock Island.

W. H. Wilder ..... Secretary  
103 State st., Chicago.

### Committee on Prevention of Tuberculosis.

J. W. Pettit, Ottawa.

C. L. Mix, Chicago.

J. F. Percy, Galesburg.

### Committee on Public Policy and Legislation.

Frank Billings, Chicago.

Carl E. Black, Jacksonville.

J. W. Pettit, Ottawa.

The Pres. and Sec'y, Ex-Officio.

### Committee on Scientific Work.

M. S. Marcy, Peoria.

Geo. L. Eyster, Rock Island.

The Pres. and Sec'y, Ex-Officio.

The figures before the names of the Councilors refer to the Councilor Districts.

### The Council.

- (1) J. H. Stealy, Freeport.
- (2) W. O. Ensign, Rutland.
- (3) M. L. Harris, Chicago.
- (4) O. B. Will, Peoria.
- (5) J. Whitefield Smith, Bloomington.
- (6) C. E. Black, Jacksonville
- (7) E. E. Fyke, Centralia.
- (8) W. K. Newcomb, Champaign.
- (9) J. T. McAnally, Carbondale.

## THE BILL TO INCREASE THE EFFICIENCY OF THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY.

Since the beginning of our Government it appears that the medical services of the Army and Navy have been unsatisfactory. This is apparent not only to the men engaged in these services as a livelihood, but also to the many hundreds who have in the past 25 years had a more or less extended experience in the militia organizations of the several states. Various spasmodic and unsystematic attempts have been made in the past to remedy this state of affairs but always without success.

Recently the medical officers of the Army have enlisted the favorable endorsement of the able Former Secretary of War Root in

behalf of a new bill which, as we see it, appears to be worthy of commendation.

In the first place, it provides for an increase of 130 members of the medical corps and more rapid and satisfactory advances in rank than have heretofore been customary.

In the second place, it does away with the degrading term of contract surgeon, an individual who now occupies the anomalous position of being in the army but not a part of it, and who has been getting better pay than the regular officer while he usually has given poorer service.

In the third place and most interesting at this time, is the proposition to create a reserve corps of medical officers. In order that this part of the bill may be thoroughly understood we give below the sections in full.



The wide significance of these sections may not have occurred to the Surgeon General and the medical profession. We see in them the opportunity to make a national degree valid in every state in the Union. What better recommendation can the young physician of the future have than to be able to append to his name the title, Member of the Reserve Corps of the United States Army? How rapidly the better class of medical graduates would take advantage of this opportunity to distinguish themselves from the poorly educated graduates can be easily imagined. We certainly hope that this bill may become a law and that its provisions may be expanded to give us the substance of a national examining board and a national degree.

Sec. 7. That for the purpose of securing a reserve corps of medical officers available for military service the President of the United States is authorized to issue commissions as first lieutenants therein to such graduates of reputable schools of medicine, citizens of the United States, as shall from time to time, upon examination to be prescribed by the Secretary of War, be found physically, mentally and morally qualified to hold such commissions, the persons so commissioned to constitute and be known as the medical reserve corps. The commissions so given shall confer upon the holders all the authority, rights and privileges of commissioned officers of like grade in the medical corps of the United States Army, except promotion, but only when called into active duty as hereinafter provided and during the period of such active duty. Officers of the medical reserve corps shall have rank in said corps according to date of their commissions therein and when employed on active duty as hereinafter provided shall rank next below all other officers of like grade in the United States Army: Provided, That contract surgeons now in the military service, who receive the favorable recommendation of the surgeon-general of the Army, shall be eligible for appointment in said reserve corps without further examination.

Sec. 8. That in emergencies the Secretary of War may order officers of the medical reserve corps to active duty in the service of the United States in such numbers as the public interests may require and may continue such officers so long as their services are necessary: Provided, That nothing in this act shall be construed as authorizing an officer of the medical reserve corps to be ordered upon active duty as herein provided who is unwilling to accept such service nor to prohibit an officer of the medical reserve corps not designated for active duty from serv-

ing with the militia, or with the volunteer troops of the United States, or in the service of the United States in any other capacity; but when so serving with the militia or with volunteer troops or when employed in the service of the United States in any other capacity, an officer of the medical reserve corps shall not be subject to call for duty under the terms of this section: And provided further, That the President is authorized to honorably discharge from the medical reserve corps any officer thereof whose services are no longer required: And provided further, That officers of the medical reserve corps who apply for appointment in the medical corps of the army may, upon the recommendation of the surgeon general, be placed on active duty by the Secretary of War and ordered to the army medical school for instruction and further examination to determine their fitness for commission in the medical corps.

Sec. 9. That officers of the medical reserve corps when called upon active duty in the service of the United States as provided in section eight of this act shall be subject to the laws, regulations and orders for the government of the regular army, and during the period of such service shall be entitled to the pay and allowances of first lieutenants of the medical corps with increase for length of service now allowed by law, said increase to be computed only for time of active duty: Provided, That no officer of the medical corps shall be entitled to pension except for physical disability incurred while in active duty and in line of duty.

#### BRONCHOSCOPY.

The interesting contribution by Prof. E. Fletcher Ingals of Chicago, which will be found on page 616 of this issue of the Journal will doubtless be read with much satisfaction by most of our readers as it will serve to call their attention to one of the latest triumphs of medical science, bronchoscopy.

Discoveries made during the excavations at Pompeii have shown that specula for vaginoscopy and rectoscopy were in use before the Christian era. The extension of this principle to the urethra, eye, ear, nose and larynx were long delayed and only perfected in the 19th century by Helmholtz, 1851, Desormeaux, 1853, Turek, 1857, and others. The medical students of the best schools are now trained in the use of all of them and thousands of practitioners in all parts of the world successfully treat

diseases which were incurable before these discoveries were made.

Oesophagoscopy, Tracheoscopy and Bronchoscopy are the latest developments of seeing far into the human body, as Moyer expresses it, and the profession and the public owe a debt of gratitude to Kussmaul, Mikulicz, Hacker, Rosenheim, Killian and others for oesophagoscopy and to Prof. Gustav Killian of Freiburg, Germany who seems to have been the pioneer worker in tracheoscopy and bronchoscopy. His first article appeared in the Munich Medical Weekly in 1898. The new procedure was much advanced by a paper read by Killian before the British Medical Association, in August 1902. Up to the present time there have been approximately 36 operations with the bronchoscope, three of which have been performed by Dr. Ingals.

#### CLOSE OF VOLUME SIX.

The House of Delegates at the Bloomington meeting wisely provided that the Society year should correspond with the calendar year. With this issue of the Journal therefore we send out the index for volume six, covering the numbers from July to December 1904, seven issues. Owing to the great increase in the size of the Journal it may appear expedient in the near future to make six issues constitute a volume as is done by all the larger weekly and monthly publications both lay and medical.

#### NEW YORK PLAN OF MANAGING STATE INSTITUTIONS.

In the October issue of the Journal we called attention to the Iowa plan of managing the State Institutions and we are pleased to know that the agitation regarding this subject which the Journal is making is meeting with enthusiastic support from all classes of citizens. The State Conference of Public Charities recently held at Rockford endorsed the idea of placing all the insane now in county poor houses in State Institutions. The conference also recommended that the

Epileptic Colony be provided for by the next legislature. This we hope will be done.

\* \* \* \* \*

To provide accommodations for the epileptics it is not necessary to expend a great deal of money. It is the opinion of many who have given this matter consideration that expensive ground should not be bought but that the least expensive tract should be purchased and the patients put to work making brick and constructing buildings for their own accommodation. Neither is it necessary to provide for every epileptic in the State at once nor to make them all charges on the State. A large proportion of them will be found in families amply able and willing to pay all the expense and a little more for their keeping in a hospital under State control. We hope this matter will be taken up by the legislative committee of the State Society and every effort be exerted to provide an institution which will be a credit to the State and a refuge for this unfortunate class.

\* \* \* \* \*

In connection with the subject of State Institutions we will call attention to the manner of managing State Institutions in New York State. Unfortunately we have not exact data at hand but from an item in the Medical Record of Nov. 26, we judge that civil service of the best character prevails in the Empire State. On Dec. 3, 1904, competitive examinations will be held in various cities in that State for several of the medical positions in the State Institutions. For the position of resident physician candidates must be residents of the State and have had at least one year's experience on the staff of a public general hospital. This post pays \$1,500 and maintenance. The medical service of the State comprises sixteen State hospitals, with about 160 salaried medical positions and about thirty positions in the Pathological Institute, the Craig Colony for Epileptics and other institutions. All higher medical positions from assistant physicians at \$1,200 to \$1,500 and maintenance, to superintendents at \$3,500 to \$4,500 and maintenance, are filled by promotion through regular grades from that of sixth grade or junior physician. May we not hope for some such law in Illinois?

## Correspondence.

HOW ABOUT THE ADVERTISERS?

———, Ill., Nov. 10, 1904.

Geo. N. Kreider, Editor,  
Springfield, Ill.

Dear Doctor: I wish to know to what extent the County and State Societies should tolerate advertising or displaying of professional cards by its members. We have a new doctor in our County who wishes to join our Society, but some objection has been raised against him as he has used his picture in the newspapers and on his cards and he puts his professional card with every advertising scheme that comes along. As I understand it, about all the advertising a doctor is allowed to do is his plain professional card in his home paper (unless he is a specialist).

Please inform me fully on this subject and oblige.

Fraternally yours,

W. X. Y.

ILLEGAL PRACTITIONERS NUMEROUS.

St. Elmo, Ill., Nov. 17, 1904.

Geo. N. Kreider, M. D.,  
Springfield, Ill.

Dear Doctor and Editor: There is a matter of importance that should have prompt consideration by the State Society. That is the illegal practice of medicine throughout the state. I would say there are in this part of the state at least one hundred persons in each county who are violating the Medical Practice law. Quite a number of druggists are still guilty of treating any kind of case that presents itself to them. There is not a neighborhood that has not two or three unlicensed midwives that take charge of the obstetrical cases until they get a bad case, then they are compelled to send for the doctor. There are some old women who prescribe freely and in fact run a pretty stiff opposition to the drug stores with their syrups, roots and herbs.

They think they know more than any doctor but do not really know the first principles of medicine or anatomy.

This meddlesome tampering with so important a subject on which they are not posted is the cause of much suffering and many deaths and should not be tolerated by the State. Disease is much better treated in its incipency, but under the present circum-

stances the doctor is not often called in time to stop the ravages of disease. Often have I seen these dear old sisters treat appendicitis for belly ache, diphtheria for quinsy, osteomyelitis for rheumatism and obstruction of the bowels for colic or sour stomach.

If, instead of making angels out of these innocent victims, they would get a smell of brimstone themselves, it would not be so bad. The people as a whole are ignorant on such matters and are not entirely to blame for this. We have the laws to prevent it if they were enforced. The state furnishes game wardens to watch and prevent the killing of wild animals, but no such guardians are furnished for the human race. Don't talk about race suicide until this wholesale homicide is checked. Rigidly enforce the laws we already have and in one year the condition will be improved at least seventy-five per cent. Talking and writing on the subject will not stop it. We must take action promptly to have these law breakers prosecuted.

Yours fraternally,

E. W. Brooks

INTEREST IN TUBERCULOSIS CRUSADE IS  
SHOWN.

Ottawa, Ill., Nov. 14, 1904.

Dr. George N. Kreider,  
Springfield, Ill.

My Dear Doctor: As an indication of the interest taken in our crusade I enclose a letter from a member of the Legislature which explains itself. This letter comes entirely unsolicited and is an index of the great interest taken in our work.

I am pleased to inform you that our accommodations at the Tent Colony are all taken and that the work progresses satisfactorily.

Yours fraternally,

J. W. Pettit.

Belvidere, Ill., Oct. 24, 1904.

Dr. J. W. Pettit,  
Ottawa, Ill.

Dear Sir: Some days ago I read in a Rockford paper that the State Board of Health had issued a pamphlet relative to the cause and prevention of consumption. I immediately wrote to the Board for some of them as I wished to distribute them in our public schools. I have received several copies



of the pamphlet and have read them with great interest. I see by it that you are conducting a colony for the treatment of consumption and are meeting with good results.

I expect to be in the Legislature next winter and hope to see some legislation enacted for the establishment of a State Hospital for the treatment of tuberculosis. I have often wondered why so little attention has been given to the treatment and prevention of this dread disease when so many of our people all over the state and country are dying every year with it. There seems to be a general awakening to the necessity of something being done. I hope to be able to get down and see you and talk the matter over with you before the Legislature meets next winter.

Very truly yours,

Frank R. Caney.

#### IMPORTANT TO MEMBERS OF THE STATE SOCIETY.

Ottawa, Ill., Nov. 17, 1904.

To the Editor:

Persuant to the requirements of the constitution of the Illinois State Medical Society, and at great expense to the Society, there has been sent to the secretaries of every component society a register containing an index card of every resident physician. Many secretaries have completed the information required on the cards, and sent them in, but some are meeting with slight opposition, and more especially with indifference. Others have asked the why and wherefor of the numerous questions asked, and desire information thereon. For the benefit of those who do not know, I wish to say that the complete card is for the use of the American Medical Association. It is to the interest of every physician to have his record placed as prominently in the directory of the American Medical Association as possible, and therefore he should in detail answer every question. Of course, a copy of the same is also retained for the use of the State Society, for the purpose of knowing the changes that may occur. There need be no fear that the information obtained will be used to the detriment of the one furnishing it.

E. W. Weis, Secretary.

## News Items.

**Dr. W. Hope Davis** and family of Springfield have departed for San Antonio, Texas, where the doctor has considerable landed interests and where he will probably permanently reside.

**Dr. Frank Billings** has addressed a letter to the lay press of Chicago, soliciting their assistance in securing the modification of the ordinance which practically prohibits the construction of a hospital for contagious diseases in that city.

**Dr. E. E. Faulkner**, of Chicago, has relocated in Des Moines, Ia.

**Dr. Fred M. Doyle**, of Chicago, has been in Neola, Ia., for several months in charge of the practice of his brother, Dr. J. M. Doyle.

**Dr. B. F. Replogle**, a homeopathic physician formerly located in Champaign and Chicago, has located in Ft. Collins, Colo.

**Dr. A. Eugene Austin**, of New York City, has located in Chicago.

**Dr. W. S. Holland** has removed from Elmwood, Ill., to 2200 Adams st., Chicago.

**Dr. J. H. Hern**, of Chicago, has located in West Duluth, Minn.

**Dr. R. W. Brown**, of Fish Hook, has gone to Springfield, Ohio, where he will practice his profession.

**Dr. J. E. Melton** has located in Fish Hook.

**Dr. W. E. Purviance**, Major and Surgeon, U. S. A., stationed at Pullman Bldg., Chicago, has been transferred to Manila, Philippine Islands.

**Dr. T. H. Shastid** has removed from Charleston to Harrisburg.

**Dr. Walter H. Allen**, of Waverley and his brother, Dr. Paul Allyn of Modesto, have formed a partnership to practice in Waverley.

**Dr. Frances Turley**, of Springfield, has removed to Chicago.

**Dr. Clara Edmonds**, of Chicago, has commenced practice in Springfield.

**Dr. William Cother**, of 63d Street and Ashland Ave., was recently assaulted by his wife who threw carbolic acid in his face and afterwards took some of the poison herself.

**Dr. and Mrs. Thos. J. Jackson**, of Chicago, have returned from Europe.

**Dr. L. C. Grosvenor**, of 185 Lincoln Ave., has returned from New England where he has a summer home.

**Dr. O. J. Baldwin** has sold his practice in Farmersville and purchased another in Diverdon.

**Dr. R. S. Piper**, of Bloomington, has devised a presbyopic test card for which he claims the following advantages: 1st. It enables you to test the eyes for reading at any distance from 8 to 24 inches accurately. 2d. There is only one measurement to be made, then you can give the glass at once. 3d. It does away with trying on glasses until you find one that suits the patient, as the chart indicates the glass at once. 4th. You may fit five people by this method in the time it ordinarily takes to fit one. 5th. Take a given case with an accommodation of 3 dioptries, patient can see through 15 different lenses vary-

ing from plus .12 to 3 dioptries. The chart always shows you the best glass for the desired reading point. 6th. It makes no difference whether the eye be Hypermetropic or Myopic, as the test allow for it. The price is \$2.00 and the card can be obtained by addressing Dr. Piper.

**Dr. M. D. Bates** addressed the members of the training school and alumnae of the Mary Thompson hospital of Chicago recently on the **Cause and Prevention of Tuberculosis**. "The most important element in dealing with tuberculosis is preventing the extension of the disease," he said. "The prevention of one case, which in itself produces another case, would in time eradicate the disease. The disease being a germ disease is distributed mostly through dust in the streets, street cars and dwellings. The number of deaths in the world by the disease annually reaches 1,000,000, which is equal to 2,000 a day, or two every minute.

**Why are not quacks prosecuted in Chicago as they are in New York?** In discussing quacks before the Society of Medical Jurisprudence in New York city the other evening Champe S. Rogers, who has for five years been the society's counsel, said that in that time 500 convictions of medical charlatans have been secured, \$90,000 in fines been collected and an aggregate of twenty years' imprisonment been imposed upon offenders. One peculiar item in the equipment of such quacks in New York city, it appears, is the taking of the names of dead physicians of repute and going into practice in some different part of the city, on the chance of being undiscovered; also, said Mr. Rogers, certificates of physicians who have died are frequently sold by auction and often prove the most valuable assets his heirs find. Quacks make their money out of the poorest people and he mentioned one such who had made \$200,000 in a year.

**Dr. Gailey** and family, of Ashland, have moved into a new residence.

**"Fainting Bertha"** alias Bertha Liebeke, of Chicago, was sent recently to the Kankakee asylum for the insane. She was arrested on a shop-lifting charge. It is said she is an adept at pretending to faint whenever in trouble or in a crowd where it is possible to appropriate small articles.

**Dr. J. T. Woodward**, of Elkhart, has sold his practice to Dr. Asa H. James of Solon Springs, Wis. Dr. Woodward will take a post graduate course at the Chicago Polyclinic.

**Dr. L. F. Curtis**, of Elkhart, has removed to Utica, S. Dak.

**Dr. A. L. Derdiger**, of Chicago, has removed to the Columbus Memorial Building, 103 State street, where he will devote his practice exclusively to disease of the eye, ear, nose and throat.

**Dr. Milton Jay**, of Chicago, has been re-elected president of the Association of Surgeons of the Chicago & Eastern Illinois Railway.

**Dr. T. C. Conklin**, who practiced medicine for about twenty years in the town of Farmington, recently died and his death revealed the fact that he had led a duel existence, having a wife in Farmington and another in the city of Peoria. By both wives Conklin had

children and maintained them in clothing and education. He died November 8.

**Dr. Frank B. Fisher**, of Springfield, died June 22, 1902, leaving insurance the payment of which was contested by a fraternal company upon the ground that Dr. Fisher had made a false statement in his application. The Supreme Court has just rendered a decision giving the widow the full amount of insurance.

**Dr. James O. Horowitz** has established in the Colorado Memorial Building, Chicago, a Medical Institute of Bibliography and Translations where bibliographies, abstracts, statistics, outlines and reviews of general subjects or special topics will be prepared for the profession. We recommend this enterprise to the favorable consideration of our members.

**Dr. Philip Deffenbacher**, of Havana, was granted \$1,280 by the Circuit Court for attending small-pox patients. The Supreme Court has reversed this and remanded the cause for another hearing.

#### FARMERS COMPLAIN.

##### Man at Rockford Arrested for Alleged Medical Fraud.

Rockford, Ill., November 19.—A man giving the name of H. W. Baskett and representing himself as agent of the Illinois State Medical and Surgical Institute of Chicago, was arrested this afternoon on complaint of farmers living near here that they had been inveigled into signing notes in return for an agreement to treat and supply medicine to rheumatic sufferers for six months. Baskett gave up the notes, which aggregated \$955, for his release. The agreement bore the signature of C. N. Hopkins, as treasurer of the institute. Baskett also had notes made at other places, which he retained.

**Dr. R. F. Bennett**, of Litchfield, formerly a member of the State Board of Health and later Superintendent of the Southern Hospital for the Insane is one of the most prominent politicians of Central Illinois. In the early summer one of the factions met to nominate a candidate for Congress. No one would have it. Candidates from every county in the district had one after another scorned the proffer. Finally some one in the hall mentioned Rives. The young man blushed and attempted to rise to follow the example of all the others but Dr. Bennett, an old politician, was too quick for Zeno and jumping to his feet proceeded to put a stop to the declination of candidates. As Rives tugged at the doctor's coat tail and interrupted him the speaker's ire was aroused and turning to the young man he delivered himself of the following epoch making remarks:

"Sit still, you consarned idiot! you don't need any money to make the campaign; you do not have to make any campaign. Sit down there and behave yourself."

Rives did not spend a cent, that is, not very many of them. It is said that he did spend a quarter, but Zeno has not admitted it.

When Dr. Bennett told him he did not have to make a campaign, neither the doctor nor Mr.

Rives ever thought that that was literally true and that it was also necessary that he make none. Had Rives made a vigorous campaign the chances are the democrats would have been sufficiently aroused to save Caldwell at least.

If Dr. Bennett is interested in pushing any medical legislation through the next Congress we fancy he can be sure of one vote.

### New Incorporations.

The Secretary of State at Springfield has granted licenses to the following corporations:

Hinsdale Sanitarium and Benevolent association, Hinsdale; not for profit; operate a hospital and sanitarium; Charles B. Kimbell, David Paulson, E. B. Vandorn.

Dr. La Force Chemical Company, Chicago; capital, \$25,000; manufacturing medicines; incorporators, D. D. Robinson, E. C. Randa, and Emma Hulett.

Cooperative Medical Service association, Chicago; \$10,000; furnishing physicians, nurses and undertakers; Frank H. Hendrickson, A. A. Blackman, Marion Alber.

O. N. Bull Remedy company, Freeport; capital, \$10,000; manufacturing proprietary articles; incorporators, Oscar N. Bull, C. L. Hermann, Mary E. Bull.

Sanatorium Training School for Nurses, Freeport; educational; incorporators, J. T. White, Winnie Taylor, David Littlejohn.

### Marriages and Deaths.

#### MARRIAGES.

Dr. E. H. L. Barry, Jerseyville to Mrs. Anna Hayes of Wilkesbarre, Pa., at Alton, Ill., Nov. 22.

Dr. F. H. Brandt, Chicago, to Miss Pauline Woltman of Rock Island, Oct. 10.

Dr. J. H. Bryant, Galesburg, to Miss Lillian H. Warfield, Princeton, Oct. 26.

Dr. W. F. Bushnell, Freeport, to Miss Sadie Agatha Hummer of Iowa City, Ia., Oct. 6.

Dr. E. H. Butterfield, Ottawa, to Miss Letitia Rothwell, in Chicago, Nov. 3.

Dr. Joseph Gilbert Bemis and Miss Sarah Cornelia De Yoe, both of Chicago, Oct. 26, 1904.

Dr. J. T. Edward, to Miss Alice Mary Reid, both of Chicago, Oct. 25.

Dr. Matt Hill and Miss Pearl Wallace, both of Taylorville, in St. Louis, November 10.

Dr. Otto W. Konzelman, to Marie Pedersen, both of Chicago, Oct. 19.

Dr. James A. Mannon, Sherrard, to Miss Frances Edgar, Cable, Oct. 19.

Dr. Oscar F. Maxon and Miss Mary Watts, both of Springfield, November 2, 1904.

Dr. Walter Miles, to Miss Tina Collins, both of Viola, Nov. 15.

Dr. Sumner M. Miller, of Peoria, Ill., and Miss Sarah C. French, of Evansville, Ind., were married in Evansville, Ind., Wednesday, Nov. 16th. After a trip to Florida they will be at home in Peoria, Ill.

Dr. J. H. Stealy, Freeport to Miss Zara H. Anderson, at Chicago, Oct. 5.

#### DEATHS.

Dr. Franklin Brooks was suffocated by an escape of illuminating gas at his home in Chicago, Nov. 2, aged 80.

Dr. Daniel F. Burton, Galesburg, Nov. 7, aged about 50. He was taken suddenly sick after eating an over amount of pop corn which caused obstruction of the bowel.

Dr. J. W. Hensley, Peoria, former Vice President of the Illinois State Medical Society died Nov. 14, at his home in that city. Dr. Hensley had been suffering from the effects of a fall received several months ago but it was not until ten days previous to his death that he felt severe results from the accident.

Dr. Henry Munson Lyman, Chicago, died at his residence, 404 Lee st., Evanston, Nov. 21.

After serving as assistant surgeon in the United States hospitals in Nashville, Tenn., during the Civil war, Dr. Lyman settled in Chicago. He was born on the island of Hawaii, Nov. 26, 1835. His parents were Americans. He was graduated from Williams college in 1858, and attended the Harvard Medical college. Then followed a course at the College of Physicians and Surgeons at New York.

Dr. Lyman had been an instructor in Rush Medical college, Chicago, and on the staff of the Cook county hospital. Later he was one of the attending physicians to the Presbyterian hospital and consulting physician to the hospital for women and children and St. Joseph's hospital. "Insomnia and the Disorders of Sleep" is probably his best known work.

Dr. Helen Leeker Lynch, died at her home in Highland Park, Ill., Oct. 22.

Dr. D. J. Stowe died at his home in Belvidere, Ill., and was buried Oct. 21, aged 73.

Dr. Frederick A. Treacy, College of Physicians and Surgeons, Chicago, 1901, formerly of Springfield, Ill., of Lewistown, Mont., died at Helena, Mont., from tuberculosis, October 21, aged 30.



## County and District Societies.

### WESTERN ILLINOIS DISTRICT MEDICAL SOCIETY.

Regular meetings are held on the first Friday in May and the last Friday in October, at such places in the district as may be selected by the Board of Censors.  
Membership 60.

#### Officers.

President ..... H. A. Chapin, White Hall  
First Vice Pres ..... A. K. Van Horn, Jerseyville  
Second Vice Pres ..... H. W. Smith, Roodhouse  
Secretary-Treasurer .. H. W. Chapman, White Hall  
Censors: T. J. Pitner, Jacksonville; Waldo Fisher, Alton; F. A. Clement, Greenfield.

The Western Illinois District Medical Society met in Quincy on Friday, October 28th, in a hall corner 8th and Hampshire streets. The meeting was called to order by the President, Dr. H. A. Chapin, at 1:45 p. m. Those present were Drs. H. A. Chapin, Carl E. Black, F. P. Norbury, W. T. Knox and H. W. Chapman. There were also present and admitted to membership at this meeting: Drs. W. E. Gilliland, Coatsburg; L. N. Henry, Ripley; J. G. Ash, Hersman; A. D. Bates, Camp Point, Jos Fletcher, Mendon; J. L. Harvey, Griggsville, W. W. Williams, Jos. Robbins, E. B. Montgomery, J. W. Shango, R. J. Christie, Jr., C. W. Pfeiffer, Sarah Vasen, L. H. A. Nickerson, John H. Rice, Wm. S. Knapheid, L. B. Ashton, Geo. E. Rosenthal and Thos. B. Knox, all of Quincy.

There were present as visitors, Drs. H. O. Collins and M. Reiffert of Paloma, J. W. Rook, Hancock County; M. M. Nickerson, Denver, Colo.; C. E. Erichson, Margaret Anderson, J. G. Williams, J. A. Koch, J. W. Burch and F. E. Tull, Quincy.

On motion of Dr. Black, it was decided that in conformity with the desires of the State Society we should have a District Society for the sixth Councillor District, and that The Western Illinois District Medical Society should be that society.

The regular business of the society was attended to including such proposed changes in the Constitution and By-Laws as were necessary.

The following very interesting papers were then read and discussed:

1. **Progress in Sero-Therapy, with Report of a Case of Tetanus**, E. B. Montgomery, M. D., Quincy.

2. **The Use of the McGraw Ligature for Gastro-enterostomy, Secondary to the Murphy Button. Operation with Description of Technic**, Robert J. Christie, Jr., M. D., Quincy.

3. **Auto-Intoxication**, Chas. W. Pfeiffer, M. D., Quincy.

4. **Rest in the Treatment of Disease**, F. P. Norbury, M. D., Jacksonville.

Dr. Black then set forth in a short address the objects and desires of the State Society in districting the state. Censors reported Jacksonville as place of next meeting to be held on the

first Friday in May next, with Drs. G. F. Lydston, Chicago; Geo. Bley, Beardstown; Wm. Parker, Mt. Sterling; L. J. Harvey, Griggsville; W. T. Knox, Manchester; Wm. C. Day, Winchester; E. F. Baker, Jacksonville; Geo. E. Rosenthal, L. H. A. Nickerson, Quincy and H. R. Gledhill, Jerseyville, as essayists, after which the society adjourned.

### EFFINGHAM COUNTY MEDICAL SOCIETY.

Regular meetings held on the 2d Tuesday of each month in Commercial Club rooms at Effingham. Membership —

#### Officers.

President, Dr. J. B. Walker.....Effingham  
1st Vice-President, Dr. J. N. Matthews....Mason  
2d Vice-President, Dr. S. Clark.....Effingham  
Secretary, Dr. W. L. Goodell.....Effingham  
Treasurer, Dr. F. W. Goodell.....Effingham

At the meeting of the Effingham County Medical Society, held Nov. 15, 1904, the following paper was read:

### THE HODGEN SPLINT.

**J. N. Phifer, M. D., Shumway, Ill:** Gentleman—The case we present to you today demonstrates the special usefulness of the Hodgen Splint in treating fractures of the lower extremities. This young man was thrown from a horse on Sunday, June 19, 1904. He was about one-half mile from home and alone. His cries brought him assistance, but it was near three-quarters of an hour before he was laid upon a bed at home. Dr. Haumesser and I were summoned to attend him. We found him lying upon his back and both limbs bent at an obtuse angle, to the right, at the points of fracture, and blood flowing from a wound on anterior surface of left thigh at point of cicatrix which you see here.

We diagnosed fractures of femora in upper third. We anaesthetized the patient, washed the wound site in bichloride of alcohol, applied boric acid and sterile gauze, after which we dressed the limbs in Liston's long splints, as a temporary support. On about the fourth day we changed to the home-made Hodgen splints, which I now show you. He made a good recovery but was slow to get upon his feet. From the fact that both limbs were fractured we feared to trust him even upon crutches, as a slip, or stumble, might produce a refracture. After removing the Hodgen splints we encased the limbs in plaster splints, parts of which you see here. He has no deformity, no shortening, and only a slight lameness, which is rapidly passing away; in fact, an ideal recovery, surgically and anatomically.

I believe that no other splints would have enabled him to pass the necessary time of confinement so comfortably. It was easy at all

times to keep his person clean, to change his bed, and even allow changes in position, without endangering the apposition.

This splint was devised by the late Prof. John T. Hodgen, of St. Louis, and he advocated its use in all fractures of the femora. Sound surgical reasons urge us to place any case of fracture above the lower third of the femora upon a double inclined plane, as the upper fragment invariably tends to tip upward and outward and override the lower. This indication is met most perfectly by the Hodgen splint and in the rare cases, such as the one we now present you, it is especially useful. By what other method could we have treated this patient, with both limbs being fractured in upper third of femur, one being a compound fracture, so well and with so little disturbance of patient and with such perfect access to the wound?

We obtain extension in using this splint, by the weight of the leg from the knee down, as our pulley is attached to the ceiling at a point more or less beyond the knee, according to degree of extension required. Should this extension force be not sufficient, or the patient be inclined to slip down in the bed, we elevate the foot of the bed from two to four inches.

We obtain counter extension with the Hodgen splint by the weight of the patient's body, and we can increase this force at our option by elevating the foot of the bed, thus at the same time increasing extension and counter-extension. You will observe that with this splint we obtain extension in the line of the femora, not in the line of the body, which would tend to angulate the site of fracture. This extension by weight of the leg below the knee tires out the heavy thigh muscles, brings them in line, and they act as co-aptation splints alongside the bones, thereby aiding in placing and retaining the bones in apposition.

Points of merit are briefly as follows:

First—Extension and counter-extension at all times may be regulated as required.

Second—Perfect access to the limb to inspect condition or treat any wound present.

Third—No bony prominences suffer from pressure and therefore no fear of pressure necrosis.

Fourth—Patient may shift his position in the bed even with both limbs broken and yet not endanger the result.

Fifth—Extension and counter-extension in the line of bone and degree always within option of the surgeon.

The splints, as you see, are home-made, and yet are as good and comfortable as though from the instrument house.

The Hodgen splint is just as useful in fracture below the knee as above, and I know of no appliance which gives us as easy and perfect access in cases of compound fracture as this.

By taking down the strips of bandage at site of wound we can dress it without disturbing the position of the fractured bones in the least, and have at all times ready access to a tibia

where we fear that necrosis of tissue is imminent.

In case of fracture below the knee we should suspend the splint from a point above the knee and attach weight and pulley to cross bar of splint in order to get extension and counter-extension. If necessary, co-aptation splints may be placed around the limb for a few days to maintain apposition.

In case of fracture of the patella the limb should be suspended in a straight Hodgen splint, and broad adhesive strips attached to anterior surface of the thigh and the lower free ends of these strips connected with a cord passing over a pulley to a weight. This would overcome muscular spasm in anterior thigh muscles and tend to prevent separation of the fragments. I consider this the ideal dressing for this injury, whether we suture the fragments or not.

Believing that this splint is not as well known as it merits, and that it is the best splint for the patient as well as the surgeon, since the surgeon may at all times know the progress of the case, correct any deviations or bad positions, we respectfully urge its more extended use, as it affords us a confidence in the well-being of our patient which no other appliance can offer.

#### SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Lincoln Memorial Library in Springfield the second Monday of each month at 8 p. m. Membership 75.

##### Officers.

President ..... W. O. Langdon, Springfield  
Vice President ..... R. D. Berry, Springfield  
Secretary-Treasurer ..... C. R. Spicer, Springfield  
Directors, S. R. Hopkins, E. E. Hagler, A. O. Taylor

The Sangamon County Medical Society held its fifth annual banquet and election of officers Monday evening, November 14th, at the St. Nicholas Hotel, Springfield. It was one of the most successful sessions held by the society since its organization. A short business meeting and election of officers preceded the banquet. The minutes of the last meeting were read and approved. Dr. W. O. Langdon was elected President for the ensuing year; Dr. R. D. Berry, Vice President; Dr. C. R. Spicer, Secretary-Treasurer; Drs. S. R. Hopkins, E. E. Hagler and A. O. Taylor were elected as the Board of Directors. Drs. H. L. Metcalf of Springfield and O. A. McIntosh of Pleasant Plains were elected to membership. The application of Dr. J. A. Prince was read and referred to the Board of Directors. Bills of \$8.35 were read and ordered paid. A vote of thanks was extended to the retiring officers. The Secretary was voted the usual fee for his services during the year. The business of the evening being finished, the members of the Society and their guests, sixty-six in all retired to the banquet hall. After the feast Prof. Bayard Holmes of Chicago read a paper on **Infection of the Mucous Membranes Lining Various Cavities**. The paper of Dr. Holmes was a masterly production and was greatly enjoyed by the assembly. Prof. Harold N. Moyer, of Chicago, then addressed



the society, dealing with various topics including the "Graft" exposure recently undertaken in Chicago which has been so widely discussed in the daily press. Dr. Moyer thinks that the publicity is the best method of dealing with graft. Dr. Moyer also expressed the opinion that the headquarters of the Illinois State Medical Society should be in the capital of the state and that the annual meetings should be held and the Journal published there. Dr. C. E. Black of Jacksonville was called on and stated that an effort was being made to have the offices of Secretary, Treasurer, Business Manager and Editor combined in one man, a resident of Chicago, and the Journal published there. This was he said a serious proposition and should be given careful consideration and only the best interests of the whole state should be consulted. It was the unanimous opinion of all present that a serious mistake would be made if the Journal were to be removed from Springfield.

The other visitors present were: Drs. E. W. Weis, of Ottawa; E. J. Brown, W. C. Bowers, J. C. Fisher and W. C. Woods of Decatur; L. L. Leeds, of Lincoln; R. A. Noble, of Bloomington; O. P. Will and C. U. Collins of Peoria; W. R. Newcomb of Champaign; S. J. Conner, of Pana; J. Palmer Mathews, of Carlinville; F. E. North and D. F. Morton, of Taylorville; W. A. Mudd, of Athens; T. J. Whitten, of Nokomis; G. R. Bradley, of Modesto; Drs. Lindsay, Wakefield and Grazier, of Springfield. The members present were Drs. O. B. Babcock, E. P. Bartlett, A. W. Barker, Helen Babb, R. D. Berry, Springfield; A. L. Brittin, Athens; E. H. Brittin, Chatham; W. A. Brittin, Auburn; M. M. Bradley, Waverly; Geo. Clements, C. P. Colby, J. N. Dixon, B. B. Griffith, A. L. Hagler, E. E. Hagler, S. R. Hopkins, J. W. Kelly, Geo. N. Kreider, W. O. Langdon, C. H. McElfresh, Springfield; J. C. McMillin, Berlin; S. E. Munson, C. S. Nelson, Fred S. O'Hara, A. E. Prince, J. A. Prince, L. Estelle Paullin, Springfield; B. F. Redshaw, Curran; J. C. O'Connor, Buffalo; Walter Ryan, C. R. Spicer, Geo. F. Stericker, A. D. Taylor, S. H. Taylor, L. C. Taylor, J. L. Taylor, P. L. Taylor, C. H. Walters, W. A. Young, H. H. Tuttle, C. M. Bowcock, T. W. Metz, T. L. Perkins, Springfield; Gordon W. Rice, Cantrall, O. H. Deichmann, Maurice Altman, H. L. Metcalf and E. A. Walsh, of Springfield.

#### STEPHENSON COUNTY MEDICAL SOCIETY.

Regular meetings are held at Freeport quarterly.  
Membership 30.

##### Officers.

President ..... Dr. W. J. Rideout, Freeport  
Vice President ..... Dr. J. N. Daly, Orangeville  
Secretary ..... Dr. K. F. Snyder, Freeport  
Treasurer ..... Dr. M. M. Baumgarten, Freeport  
Board of Censors: Dr. Hillebrand, Dr. B. Erp.  
Brockhausen, Dr. J. A. Poling.

The second quarterly meeting of the Stephenson County Medical Society was held at Freeport, Ill., Thursday afternoon and evening, President Wm. J. Rideout being in the chair.

The afternoon meeting was devoted to the reading of technical papers, being a **Symposium on Tuberculosis**, the program being as fol-

lows: **Bacteriology and Pathology on Tuberculosis**, by Dr. F. G. Voight. A very interesting historical sketch was given of the bacteriology and pathology of this disease. Though long believed to be parasitic in origin, it was not until 1882 that the bacteriology of tuberculosis was discovered.

The history of our knowledge of the disease may be divided into five periods, beginning with Hippocrates, who in 400 B. C. classed all suppurative diseases as phthisis and believed empyema to be identical with phthisis. Aretaeus held that phthisis and empyema were not the same, and that phthisis was an ulceration of the lungs. His treatment was mainly hygienic and dietetic.

The second period begins in 1700 A. D., when Mangetus, Bonnet and Morton first disclosed the true pathology of the disease and noted the milary form.

In the third period Bayle and Laennec became very prominent, Laennec introducing auscultation and pectoriloquy and believing that pectoriloquy to be a pathognomonic sign.

In the fourth period Villemin announced the contagiousness of the disease, and finally the fifth period crowned by the discovery of the bacillus by Koch.

A description of the germ then followed and the identity of bovine and human tuberculosis reiterated.

The method of contagion and spread was then thoroughly entered into and valuable information given as to the different atriæ of the body to tubercular infection.

The gross and microscopic pathology was described from the first lesions to the terminal stages and the method of fibrous encapsulation well illustrated. The encapsulated, the fibroid phthisical and the retrograde metamorphosis were described as three possible pathological terminations of the disease.

#### Diagnosis of Tuberculosis.

**M. Milton Baumgartner:** The forms of human tuberculosis are as numerous and varied as the parts of the human body, but the advanced disease always presents a recognizable sameness. But the early diagnosis, the most valuable, is the most difficult. The tubercle bacillus may be found in the respiratory tracts of the healthy; therefore, an absolute early diagnosis is perplexing.

In the Boston City Hospital where tubercular patients are presumed to be excluded autopsy shows old or recent evidences of tuberculosis in one-third of the cases. Naegeli computes that every person over forty years of age has had or has tuberculosis.

The detection of tuberculosis as early as possible has been the earnest endeavor of the profession ever since the disease has been recognized. The first signs of infection by the B. tuberculosis are similar to those of many other infections. The patient begins to eat lightly, becomes thin and easily fatigued. May now develop a slight cough and chilly sensations. These early symptoms associated with a loss of weight are very suspicious. We should at once get a record of temperature for several days.



The thermometer is the most reliable means of detecting incipient tuberculosis. Haemoptysis is frequently the first serious symptom of tubercular infection. Pleurisy is very common and practically pathognomonic. The early physical signs are as a rule slight and ill-defined. The usual positive diagnosis rests with the microscope. When the germs are few they may easily be missed and a negative result obtained. A good method is this: Collect the sputa for several days. If scanty, a warm wet pack in the form of a poultice at night and a cold wet towel rub in the morning will usually make it more profuse. Put the specimen in a large bottle, add a little water and shot and shake vigorously until the mass be broken up. This is then to be centrifuged and re-centrifuged. Tuberculin is one of the most valuable methods we have, and if negative is most important.

#### The Medical Treatment of Tuberculosis.

**Wm. F. Karcher:** Statistics were given showing the vast importance on this subject, and the common opinion that tuberculosis is an incurable disease was refuted. The treatment is to be directed first, toward the escape of germs away from those already infected. Second, the prevention of their entrance into bodies of healthy individuals. Third, the radical treatment of those already suffering with the disease.

Hereditary consumption was denied.

As to the actual treatment of those affected: In this disease the patient is to be treated. Nothing will otherwise affect the disease. The patient should at once be told his trouble to gain his co-operation. He should give up his life to the struggle until well. Fresh air is of paramount importance. Plenty of sunlight was insisted upon. Judicious over-feeding was to be employed where the digestive organs will tolerate it. As to drugs many may be used and some are of great value. Creosote is very valuable and its compounds or modifications. As to deporting patients, it is strongly advised against, owing to the danger of too much exercise or his falling into the hands of unscrupulous men.

#### Surgical Treatment of Tuberculosis.

**J. H. Stealy:** Surgical tuberculosis is to be divided into three classes: First, those cases requiring total extirpation. Second, those cases requiring a minimum of surgical work to open up the affected fields to anti-tubercular remedies, or to the stimulation of body efforts to neutralize the infection. Third, those cases requiring only the assistance of immobilization to throw off the disease. The tendency of today is toward the second and third line of treatment to the exclusion of the first.

Surgery is thus becoming rather the adjuvant of medicine. The possibility of the future extirpation of tubercularized lung tissue was discussed. The early recognition and treatment of these cases was emphasized and the atrium of infection pointed out. The importance of absolutely excluding tuberculosis in diagnosing joint affections was pointed out. The consist-

ent removal of the lymphatic ring from the throat and nasopharynx was shown. In summary—First, the early recognition of cases. Second, the importance of early attention to tonsils and adenoids. Third, mild measures, where compatible with cure, are to be used. Fourth, if extirpation required it should be radical.

#### Tuberculosis from the Standpoint of Public Health.

**R. J. Burns,** Health Officer of the City of Freeport: Dr. Burns said it was a fallacy to believe that consumption might be transmitted through a family after a lapse of several years where one person in the family had been a subject of the disease. This superstition, he said, is fast dying out, and that a child born of parents having consumption need not necessarily be affected with the same disease. He said that in Stephenson county during 1902 there were 391 deaths, of this number 26 being due to tuberculosis; in 1903 there were 384 deaths, 29 being due to tuberculosis. In the state there were 61,144 deaths during the first period, tuberculosis claiming 6,895; in 1903 there were 61,037 deaths and the loss by tuberculosis was 7,026. He declared the disease to be on the increase in the county and the state. The subject is one of the greatest importance, and the co-operation of educators and others was asked to help in the work that is being done to stop the spread of the disease. He favored the erection of a county hospital for tuberculosis patients. The first expense would be the greatest, as the number of patients would decrease in the ratio to which the public were educated in preventing themselves from being affected.

#### Discussion.

**Dr. J. W. Pettit,** Ottawa, Ill.: It is quite remarkable that all the papers here presented are so correct upon this much tabooed subject. But as to treatment I wish to say a word. I do not entirely agree with what the paper upon the subject has to say. The less we have to do with drugs the better we succeed. No need for cough remedies, germicides or anti-sweat medicines. We have a fault of nutrition and any medical treatment is merely incidental. Avoid drugs where possible. I am sorry the writer is not here to discuss his subject. He does not emphasize open-air treatment enough.

The first essayist gives us a quotation from Hippocrates who mentions feeding the patient as the best treatment of phthisis. We find we are right back again where the profession started. I was glad one essay dwelt upon heredity, and we know the whole question is one of resistance. I was very much pleased with Dr. Burns' paper. The prevention of the disease is of paramount importance.

I want to emphasize particularly what he says about the relation of physicians to politics. Some years ago I was appointed to a committee to secure a medical practice act. The reason we got no better results and failed almost absolutely was because of the profes-

sional apathy. We could have had everything we asked for if we had stood together. We owed our defeat to, first, the indifference of the profession, and second, the different views held by everyone, and when we got to Springfield we were up against the attorneys of the quacks, and what we did get, was gotten through personal influence. I would not go through this again for \$10,000. We owe our profession and our people a duty that we cannot deny. Prevention should be the aim and we need the public ear and interest.

There was one thing that was not touched upon. No one mentioned one kind of legislation. In every town an anti-spitting ordinance should be found. But this cannot be enforced unless the public interest demands it. In Ottawa, Ill., the ordinance was at first jeered at. Today it is enforced to the utmost by all, and none dare speak against it. The people will do these things if they realize the danger and we are responsible for their ignorance. The press should be interested. Not advertising like the quacks, but for the dissemination of medical wisdom. Eight hundred out of one thousand papers in Illinois have promised to aid the State Medical Society, and today we are noticing the increase in the popular knowledge of tuberculosis.

Dr. Burns advocated the establishment of a County Hospital for tubercular patients. The time is not yet ripe. I believe state institutions should be established first. Private places for the wealthy, public places for the poor. I believe home treatment is the future treatment. But the time for this is not yet ripe. Commence with one state sanatorium and, as it proves successful, increase the number. The duty of every physician is to keep the patient at home. Don't send them away. It seems to me that we are in a fight of more importance to all than any other question ever before us and the people.

**Dr. J. H. Stealy, Freeport, Ill:** I believe Stephenson County Society has done more in the last two or three years to open up the question than ever before. I argue that medicine to a certain extent must be used. For the laity is not yet sufficiently educated to allow us to do away with it entirely. In mixed infections I think we should use medicine. In Germany, they advertise boiled meats. These are tubercular, and I question if the Germans would do this if there be danger. As to statistics the apparent increase in tuberculosis in this county may be due to our greater ability to diagnose the trouble.

**Dr. Saucerman, Rock Grove, Ill:** I am well pleased with the co-operation and program here shown. The early diagnosis is very important and do not fool away time in delaying treatment. What is the best way to dispose of the trouble? Whom shall we tell when we have discovered a tubercular patient. The earlier the patient knows his trouble the better he can aid us in fighting it. But there is one thing we must watch out for in this crusade. The public are apt to expect too much in the way

of cure and then, becoming discouraged, the pendulum may swing the other way.

**Dr. E. H. Best:** I want to tell Dr. Pettit that we have an anti-spitting law in this city.

In the evening Dr. Pettit addressed the public on this subject and the meeting was reported in the daily papers as follows:

#### OPEN AIR TREATMENT.

#### ADVOCATED AS CURE FOR "THE WHITE PLAGUE."

#### Dr. J. W. Pettit Discusses Treatment for Tuberculosis—Favors Establishment of Sanitaria.

Aroused by the appalling statistics that have been gathered to show the yearly death loss by tuberculosis, a public meeting was held last evening at the First Presbyterian Church, under the auspices of the Stephenson County Medical Society. Several hundred people were present, including Sisters of Charity, professional nurses, educators and physicians of the city. Dr. J. W. Pettit, of Ottawa, Ill., chairman of the committee on tuberculosis of the Illinois State Medical Society, made the principal address, and his remarks in reference to the early care of patients, their diet and open air treatment, made a marked impression. He frowned on the old theory that consumption was hereditary and declared that by proper treatment all traces of the disease would be removed from families afflicted.

The meeting was presided over by Dr. W. J. Rideout, president of the local society. At the afternoon meeting a number of papers on the subject had been read, the one on **Tuberculosis from the Standpoint of Public Health**, by Dr. R. J. Burns, of Freeport, being especially timely, and Dr. Burns was invited to read the paper at last night's meeting.

#### Dr. Pettit's Address.

Dr. Pettit referred briefly to the statistics that had been gathered in regard to people having tuberculosis, saying that in the United States last year there were 160,000 deaths from this disease, Illinois contributing 7,000, and that more people die of tuberculosis every thirty days than perished in the Iroquois fire. There are 10,000,000 in the United States afflicted with this disease now who will die if steps are not taken to help them. He said that tuberculosis was the most easily communicable and the most easily cured of any of the contagious diseases. The press has given the state society its best support in publishing statistics and means that will aid patients in helping themselves, and Dr. Pettit said great praise was due to the papers that have done this.

Dr. Pettit impressed the audience that the first essential of treatment was fresh air, good food, rest and living out of doors. He did not presume to have more knowledge than that possessed by the average physician, except in so far as the duties of his position and the interest in the work caused him to investigate. Consumption of the lungs, he said, was our national



disease, and it is the cause of more than 10 per cent. of all the deaths that occur. Until within the past few years it was almost universally believed that consumption was hereditary, incurable, and, in many cases, inevitable, but now the contrary is known to be the case. Notwithstanding this fact, they are not applying this knowledge with that vigor and promptness which should characterize the medical profession. The reason of this, perhaps, lies in the fact that home treatment is not practicable, because so many cases occur in families where it is not possible to make the application; and second, where patients are more favorably situated, it is impracticable, for the reason that the modern methods have not been accepted by the laity with that degree of confidence so essential to applying the treatment successfully. A third reason might be given that the methods are not well understood by the average physician, and where they are, they consume so much time and energy that it is hardly possible for the busy physician to get the time from his other work to devote to the few patients whom he may have under his care. Dr. Pettit said he was a firm believer in the practicability of home treatment of tuberculosis, but he believed that the time has come when the education of the public and the profession must come through sanatoria; that sanatoria are to be the training schools which shall be centers of influence in propagating the new doctrine and its methods, and he believed it would be wise for the profession to devote its energy to the establishment of sanatoria, rather than take the risk of bringing the open air and dietic treatment into disrepute by the many failures which must result through lack of experience of the individual physician, and, more than all, lack of co-operation on the part of patients and friends.

In regard to the fresh air treatment, Dr. Pettit said that the site should be somewhat elevated, pleasantly surrounded, plenty of sunlight, good water, good drainage and freedom from all irritating and infecting organisms. Climate cuts no particular figure, if the above conditions are complied with. The well clothed and nourished patient may defy the coldest temperature and there is no danger of catching cold. His recovery is apt to be more quick in cold weather than in warm.

After dwelling at length on the diet, fresh air treatment and attention to the patient, Dr. Pettit said:

"There is nothing to discourage the most apprehensive patient in the life experienced in an open air sanitarium. Notwithstanding the fact that the public mind has been so quick as to pick out two apparent rigorous items and to identify with them the whole method of treatment, it is commonly remarked by those who hear for the first time some account of the treatment that they could never stand the cold and that the treatment would kill them. But in point of fact, the patients are not allowed to become cold, and the treatment so strength-

ens the assimilative functions that the body needs more food and no unpleasant cramming is required. It is a fact born out by my experience that patients soon learn to enjoy the treatment and particularly that which is to the inexperienced person most formidable—the life out of doors.

"It should be borne in mind that patients who come from comfortable homes are not required to remain in sanatoria until cured. Life in sanatoria may vary from two to six months. A cure can hardly be said to be effected until two years have elapsed, although the patient may in the meantime appear to be perfectly well. As a general rule, a patient should stay long enough to learn the methods of treatment and then be returned to his family physician for supervision and direction for such time as may be necessary. The patient should never be allowed to return to the methods of living which induced the disease, as he is almost certain to relapse.

"With the results of sanitarium treatment you are no doubt familiar; they are eminently satisfactory. Generally speaking, 20 to 30 per cent. are apparently cured, 25 to 35 per cent. disease arrested, 25 per cent. much improved. The results in any sanitarium will necessarily vary from time to time, depending upon the class of patients under treatment and the stage of the disease. Indeed so much depends upon the stage of the disease that herein lies the chief responsibility of the family physician. It is needless to say that incipient cases will be cured more certainly and quickly. Results show about 90 per cent. in that class; in the second stage, about 50 or 60; while in the third stage, not to exceed 5 per cent. The percentage of the third stage cases cured is so small that it is a useless expense to the patient and an almost hopeless undertaking for the physician; therefore, they had better remain at home.

"Another practical point, and one which is essential to success, is the importance of an early diagnosis. It is self-evident that the earlier the diagnosis is made the more certainly can a cure be effected. The profession must awaken to the fact that if the disease is not diagnosed until it is well advanced, as is now too often the case, the time when a cure could have been effected may have passed. Unfortunately such mistakes cannot always be remedied. Many a patient's life is sacrificed because a diagnosis is not made early enough for him to avail himself of the advantages of treatment. As physicians we should be on the alert to recognize the disease early, and if, after the most painstaking efforts, we fail to diagnose the disease and still have reason to suspect it, we should give the patient, and not the disease, the benefit of the doubt by promptly placing him under proper treatment.

"The balanced ration is an essential feature in the treatment of tuberculosis. Since the whole question is one of nutrition, it is essen-



tial that the patient be fed, not what his appetite may suggest, but a balanced ration, which shall contain from day to day, all the elements of nutrition, which the tubercular patient so much stands in need of. In order to accomplish this, the one who prepares his food must have a scientific knowledge of food values.

Not only is this essential, but the palatable preparation and the esthetic service of the food is quite important. This can only be done by cooks who have had scientific training such as is given in the best domestic science schools. This leads me to suggest that domestic science as taught in many of our technical schools will play an important part, and should occupy a conspicuous place in the treatment of this disease. To this end, and with this in view, I have the honor, as I believe, to have secured the services of the first domestic science graduate who has engaged in this work.

"We are now seeking to arouse a public sentiment that will result in the establishment of state sanitariums for the care of the unfortunate people who may be afflicted with tuberculosis. I trust we may guard against the mistake that has been made in all of our state institutions, without a single exception. Money has been lavishly expended in the erection of buildings and in equipment. The observing person who visits these institutions is apt to get the impression that they are maintained for the benefit of those who minister to the wards of the state, instead of the unfortunate classes in whose name they are established. While we should have due regard for the comfort of the tubercular patient, it is not necessary, neither is it desirable, that they should be housed in expensive buildings. Perhaps no class of patients can be more cheaply provided for in this respect than consumptives.

"In the fight against tuberculosis there can be no better object lesson than the sanitarium and the successful work done by it. We have too few of them. I hope the movement now on foot to erect a state sanitarium for Illinois will receive encouragement from every citizen of the state; that no feeling of personality or of politics will enter to interfere with its progress, and that our state will follow closely the excellent example set by Massachusetts, the pioneer in the work, whose sanitarium at Rutland has been enlarged to its fullest capacity, and where there is already an agitation for the erection of a second. New York, Pennsylvania, Ohio, Michigan and other states are rapidly following. May we soon see in Illinois a model sanitarium, an educative center to assist in overcoming the ravages of this dread, though preventable disease. If we can by the erection of sanitarium for all classes, rich and poor, and by carrying on the hygienic, dietetic, educational and symptomatic treatment for all consumptives outside such institutions, cure the curable and make harmless the incurable patient, the problem of dealing with the most widely spread of all diseases will have been solved."

## PEORIA CITY MEDICAL SOCIETY.

Regular meetings are held in the Observatory Building, Peoria, on the first and third Tuesdays of each month. Membership 77.

### Officers.

President ..... Dr. J. C. Roberts  
First Vice President ..... Dr. E. E. Gelder  
Second Vice President ..... Dr. B. M. Stephenson  
Secretary ..... Dr. W. R. Allison  
Treasurer ..... Dr. Jeanette Wallace  
Member of the Board of Censors..Dr. A. J. Kanne

The Peoria City Medical Society met in the Observatory Building on Tuesday evening, October 25, for the election of officers: The above were elected.

The Peoria City Medical Society met in regular session at the Observatory Building with the following present: Drs. L. A. McFadden, President; J. C. Roberts, First Vice-President; B. M. Stephenson, Second Vice-President; S. M. Miller, Secretary; Jeannette Wallace, Treasurer.

Members present were: Drs. Davidson, Gelder, Sidley, Wallace, Sutton, Barbour, S. M. Miller, Kerr, Kanne, Roberts, Marcy, Cooper, Allison, Greene and Stephenson.

Dr. L. A. McFadden in his remarks as retiring President said as follows:

Ladies and Gentlemen—It has been the custom of retiring presidents of this Society to deliver a valedictory address, but I shall not attempt to make any extended remarks on this occasion, but merely say a few words on retiring from the honorable and responsible position which I have held during the last year, and express my appreciation for the trust you have reposed in me.

Our Society has grown in importance and numbers, and it has been a means of scientific development in our city and surrounding country. It has cultivated social with scientific advantages, and I trust that as the years go by we make rapid strides in the gaining of scientific knowledge and that we may not lose the prestige that we have gained in a social way. May we remain firmly cemented together and may good feeling and fellowship always prevail, for nothing speaks better for a medical society than for its members to be able to say that we are united and on friendly terms, and that all are laboring together to gain mastery over the diseases which afflict mankind, and that petty jealousies and selfish interests are put aside. May our fame for unity go abroad over our great commonwealth as the one society in which there are no bickerings or murmurings of discontent. Peace and harmony have prevailed among our members during my term of office, and our meetings have been well attended, the papers read have been of a highly scientific character, the discussions have been participated in by most, if not, all, of our members, and in this way the exchanging of experiences brought out by our discussions have made our meetings both pleasant and profitable. The cases reported have been of an instructive nature, and I congratulate not only myself but all our members as well that the year just closed has been the banner one of our Society; but let me here re-

mark that the success of our year's meetings has been largely due to the good, efficient and conscientious work of our Secretary, Dr. Sumner M. Miller. The officers of a society cannot do much towards making it a success unless they have the support of its membership, and in many societies I am sorry to say they do not, but in ours the retiring officers feel that they have had the support and hearty co-operation of all.

During the year, we were called upon to mourn the death of Dr. Paul Dombrowski. He occupied a prominent position in society, he was an honored and respected citizen, he was beloved by his professional brethren, and no man stood higher in this Society or in the profession than did he. We honor and revere his name, and it will illuminate our social and professional horizon for many years, and his memory will be kept as green in our minds as the grass that will grow over his grave during the years to come.

In conclusion I wish to say that I trust that the lives of all our members may be spared during the coming year, that we may attend the meetings of our Society regularly; and as for our incoming president, Dr. J. C. Roberts, I can ask nothing better than that he may receive the same courteous treatment from your hands as I have. Again, let me thank you, one and all, for favors shown, and your kind treatment during my term of office.

The chair appointed Drs. Kanne and Marcy a committee of two to escort Dr. Roberts, the newly elected President, to the chair. Dr. Roberts thanked the society for the honor conferred upon him. He then called First Vice-President, Dr. Gelder, to the chair, and then delivered the following address, a part of which was as follows:

In view of the fact, an effort is being put forth to make it obligatory for all cases of tuberculosis to be reported to the Health Department, I wish to call your attention to some of the difficulties that will beset us, as physicians, if such legislation is established, unless we are successful in moulding such laws to subserve our interests.

I am sure there is not one among us, but who would further any project that would lessen the danger of infection or reduce the death rate of this plague; and I hope I may not be understood as raising one stumbling block against such a measure, but I hope to be able by pointing out some of the disagreeable features of the intended laws, requiring a report to the Health Department of all tubercular cases by the physicians, to show the necessity of being instrumental in forming such laws as may be enacted.

I have long contended that we must diagnose our cases of tuberculosis long before they have advanced to so grave a condition that the patient or his family are aware or suspicious of his condition. In other words, it is possible to diagnose tuberculosis before a suspicious cough or a marked degree of any symptom of disease is present, and if we do justice to our patients and to ourselves we

must at this very early stage make our diagnosis.

The effort to publicly brand these patients as tubercular will cause many complications, such as, denying the correctness of our diagnosis, offsetting it with that of one less competent or conscientious, making it necessary to confirm the charge by a compulsory existence in a hospital and the use of tuberculin.

The embarrassment that many families would experience in this public exposition of its inmates would lead to many subterfuges. Family and personal histories, hereditary tendencies, etc., would be warped in order to avoid the public brand, thus defeating the ends of justice at the expense of their own best chance of a cure if not with their lives.

If such legislation as spoken of is instituted then we must be prepared to properly dispose of that very large class of children suffering from Adenitis, who, according to the best authorities, make up the sum total (almost) of the later number of adult cases. They must bear, as it were, a public brand for an average of twenty-three years, flaunting in the face of the diagnostician, rosy cheeks, red lips and all the elements of frolicsome youth.

If such legislation is instituted we must be prepared to cope with that strangest of all features of the disease, the personal consciousness, or belief of the patient that no such disease exists. It is strange, though no less a fact, that tubercular subjects are honest in the belief that nothing serious exists with them.

If legislation is instituted making it obligatory for physicians to report all cases of tuberculosis, then it becomes necessary to institute auxiliary legislation. It is a question of law whether a man is not liable to legal prosecution who betrays a secret of his patient acquired through the means of his being a physician (and it certainly is betraying the most sacred professional trust). Many of you recall the experience of the noted Dr. Playfair, of London, who was made defendant in a suit for \$25,000, for divulging the physical condition of one of his patients.

If legislation is instituted, then it must be made to include all cases and all classes, the rich and poor, the highly educated, as well as the most ignorant, must be subjected to the same law, for there is nothing that will make a law so inoperative as class legislation. This is one of the fundamental principles upon which our American institutions are founded and would instantly be closed as a means of redress.

It is a question as to the limitations of the law. We have licensed preachers who administer unto the moral nature of man, but the state does not require him to become a public detective. There is but little, if any, difference in the sacredness of the information obtained in the priest's confessional, and that obtained in the physician's office, and the law holds the former strictly sacred.

It can be no crime for a man or child to have tuberculosis. The crime is committed when he interferes with the rights or safety of



his fellow man. Our present laws would prove sufficient.

I believe it is the duty of every physician to inform the head of all families the nature of the disease and the danger to others, or to the public, and when the physician has done this, all responsibility should cease on his part.

I believe we should have legislation on this matter, for it is a prevalent and loathsome disease. It is not necessary to speak of the high death rate over all other diseases, or how dangerous to humanity the average tubercular case is. Expecterated matter, deposited in any manner other than burning, is a crime against humanity. Infected houses to be occupied by unsuspecting people are a menace to the public, and any crusade started to correct these evils should have our hearty support.

No one having any knowledge of the conditions needs any argument to convince him that something should be done to right a public evil, but the question is, shall we lend ourselves, as a profession, to be the detective agency of the State? Let us see to it that the responsibility be placed, where it by rights, ought to be. Let the heads of families notify the department and receive instructions adequate to the case, and if they impose on right and justice and are detected let them answer to the law as any other criminal.

Much might be written on the subject, but I feel enough has been said to show how necessary it is that any law that may hereafter be instituted, in view of controlling the spread of tuberculosis, needs our special care in construction, that the burden be placed where in justice it belongs, and I would offer this suggestion, namely, a standing committee be appointed whose duties it shall be to see that any local law that shall hereafter be enacted shall be so constructed as to comply with the dignity and office of our profession.

The discussion of the paper was opened by Dr. Davidson, who endorsed the points made by the essayist.

**Dr. Barbour:** This matter should be left to the physician. People will not always follow the advice of the physician. The people must be educated to understand what is expected of them.

**Dr. S. M. Miller:** I am glad this subject was brought up. The Associated Charities Association of this city has made me chairman, whose duties are to devise the best plan to combat tuberculosis and also to promote the work here.

Our plan is similar to other cities. Two months ago I brought before this Society the result of my work to report it, and to be discussed by you, before presenting it to the Associated Charities.

We have two ordinances which we hope to present to the City Council.

1. Will require registration of all cases of tuberculosis.

2. Proper disinfection of houses.

Our campaign will be one of education. No publicity will be made of any report to the Commissioner of Public Health.

I hope that the early diagnosis, the early symptoms will be better studied and sooner recognized, so that these cases will be given greater opportunity of recovery.

**Dr. Kerr:** I am of the opinion that too much stress is made on the report of tuberculosis. I am disposed to believe after many years of experience that the inherited tendency plus the exposure is necessary to produce the disease. The good to be derived is by educating the people. Shall we report all forms of tuberculosis, or does this apply only to pulmonary tuberculosis. May we not exclude the others, for I believe the contagion is from the lungs. I can, however, see it could be from many forms of this disease. We should impress the people of the danger of transmitting this disease to posterity.

**Dr. Kanne:** The points brought out by Dr. Roberts are quite timely. Has the state a right to demand a report from a physician? To report a case may cause the dismissal of the attending physician.

**Dr. Marcy:** This is an important subject, one that took a very prominent place at the State Medical meeting. It was here that a committee was appointed to prosecute this work of education and reduction of mortality from this disease. I have the honor of being a member appointed as a sub-committee. I think this subject one of the greatest questions of the day.

I do not see any reason why the report of these cases should be kept a secret. The living should be protected by law.

**Dr. Cooper:** Legislation as to control of tuberculosis is of vital importance. We must educate the people and isolate, and the sooner the better. This may require years, but the time will come when these cases will be compelled to go to hospitals.

**Dr. Sutton:** I am glad Dr. Roberts has brought out these points. Twelve years ago I read a paper, suggesting the education of the people to contagion. People will help when they are educated; they do not know what to do, and yet would be glad to assist if they know what to do.

Report the cases and reduce the mortality. It is not a matter of secrecy but one of common welfare. Let us do something.

Dr. Roberts in closing said that idea seemed to be that he was discouraging legislation. We must have a part in this organization. I do believe tuberculosis is probably hereditary. Adenitis is said to be caused by tuberculosis. Most of all adult cases of tuberculosis had adenitis when children. We should have a committee to word the ordinance so as to read just what we mean. The ordinance should only include the form of tuberculosis that is active danger. I would suggest that this Society have a committee to see to the form of the ordinance.

Society adjourned.

The Peoria City Medical Society met in regular session, at the Observatory Building, with all of the officers present.

Dr. R. L. Green was elected to succeed Dr.



E. M. Sutton, as censor, whose term of office had expired.

President Roberts announced the death of J. W. Hensley, which occurred on Monday morning.

Dr. Sutton moved that the chair appoint honorary pall bearers. The chair appointed the following: Drs. Will, Marcy, Roskoten, Kerr, Bradley and Collins.

Dr. Kerr moved that the President, First Vice President, and Secretary be made the committee on resolutions and flowers.

The committee reported the following resolutions:

**Whereas**, Once more has death taken from us one of our members. In sorrow and sadness we submit, for Dr. J. W. Hensley is dead; therefore, be it

**Resolved**, That the Peoria City Medical Society has lost an esteemed and valued member, the medical profession bereft of a safe and eminent diagnostician and the community a gentleman whose life and works are an irreparable loss.

**Resolved**, That this Society extend to the wife of the deceased in this dark hour of her affliction, our sympathy, and to the children may their father's moral life and purity of purpose be their consolation.

**Resolved**, That in all that was good and great in the life of him for whom we mourn may we all receive new inspirations and new hope of an eternal reward for the faithful.

J. C. Roberts,  
E. E. Gelder,  
W. R. Allison.

Dr. Collins presented an interesting case of dislocation of the patellae in a girl aged nine years, this case was carefully examined and discussed by many of those present.

The president introduced Dr. Emil Ries, of Chicago, as the essayist.

Dr. Ries read an interesting and very scientific paper on the subject of **Callous Ulcer of the Stomach**.

He said that there were cases in which no amount of clinical or operative examination is sufficient to make a diagnosis of callous ulcer, therefore all must depend on the microscope. In speaking of differential diagnosis between carcinoma and this disease he said the long duration was one differential point.

The presence or absence of hydrochloric acid, nor the microscopic examination of stomach contents, are no aid in making diagnoses. The diagnosis between carcinoma and callous ulcer is almost impossible. The doctor spoke of two diagnostic points; first, search for metastasis, second, slides prepared during the operation.

He said that involvement of lymph-glands, are not diagnostic aids; that duration of disease is not reliable as diagnostic factor. He suggested that in treating callous ulcers they be dealt with as if they were malignant and advised resecting the ulcer bearing area; because when it is removed, it matters not whether it be called ulcer or a malignant condition. The

doctor said that often these ulcers became malignant.

**Dr. Sutton:** I feel like congratulating this Society in having such a nice start for the new year. Such papers as we have just listened to are of much interest. We are lead into a new field of knowledge regarding callous ulcer. The resection of the ulcer is for fear of its becoming malignant is important. We have had in the past patients who had hemorrhages; coffee ground vomit, etc., from which has been made the diagnoses of malignancy, which might have been relieved by adopting the measures advocated in this paper.

**Dr. Kerr:** I wish to express my appreciation of this practical paper. We have all been benefited by it; the diagnostic signs so called are knocked down. The hydrochloric acid test; the duration of disease are uncertain. Now we have to go deeper and explore.

**Dr. Roskoten:** I know so many place faith in medical treatment. I have been hoping that some one would make the diagnosis so clear that we could tell when to direct a patient to the surgeon and when to rely on medical treatment. I hoped that some one symptom would prove reliable. If I had a case of gastric trouble that did not improve after medical treatment, within a seasonable time, I would suggest calling the surgeon. After several years practice as a medical man I am willing to turn over my obscure cases to the surgeon.

**Dr. Ries** (in closing): What I want to say in this paper has been expressed by Dr. Roskoten. Our differential diagnosis is of no benefit, medical treatment is not successful. Such cases may die before the diagnosis can be made. They should be operated before it is too late and not let go on to a malignant condition.

The callous ulcer explains why some cases of tumor of the stomach get well. Carcinoma always goes on to death. Callous ulcer may improve.

We are sorry to write you that Dr. J. W. Hensley is dead. He passed away on the morning of November 14, 1904.

Dr. Hensley was one of our most prominent physicians and took an active part in our Medical Society.

He was elected president of the Peoria City Medical Society in the year 1894 and often contributed valuable papers for consideration of the profession.

The doctor was one of our most earnest workers in our society.

## CUMBERLAND COUNTY MEDICAL SOCIETY

Regular meetings are held Tuesdays of April, June, September and November.

### Officers.

President ..... G. E. Lyon  
Secretary-Treasurer ..... W. R. Rhodes

The Cumberland County Medical Society met at the Court House in Toledo and opened in due form with the following officers in the chairs: G. E. Lyon, President; W. R. Rhodes, Secretary.

The regular routine of business was gone

through with and the following literary program rendered:

Dr. R. L. Kurtz, of Neoga, gave a well prepared paper on **The Differential Diagnosis of the Various forms of Gastro-Intestinal Diseases That are Liable to be Confounded with Typhoid Fever.**

Dr. W. R. Rhodes, of Toledo, Ill., presented two clinical cases with line of treatment followed in same. a. **Fracture of 7th, 8th and 9th ribs at Costo Chondral Junction on Left Side.** b. **Gonorrheal Endometritis Complicating and Terminating at two Months Pregnancy.**

A motion was passed that all members of the Medical profession in Cumberland County past the age of sixty years and having been members in good standing of at least one or more recognized Medical Societies for a number of years be admitted to our society without the payment of dues.

The meeting was then adjourned to meet again the second Tuesday in April, 1904.

#### KENDALL COUNTY MEDICAL SOCIETY.

Meetings are held the second Tuesday of May and October at Yorkville.

##### Officers.

President ..... F. R. Frazier  
Vice President ..... Thomas Drew, Oswego  
Secretary-Treasurer ..... R. A. McClelland

The annual meeting was held Tuesday evening, October 11th, the above officers were elected.

A very good attendance of members present, the membership of the society was increased one by the application of Dr. W. H. Livermore of Plattville, Ill., which was received and referred to the board of censors and favorably reported on when the doctor was voted a member.

The newly elected president appointed as a Board of Censors, Drs. Drew, Kinnett and Johnson. Doctor Sippy of Chicago and his assistant Dr. Daniels were present and Dr. Sippy gave the society a two hour address on some of the **Diseases of the Stomach and Intestines**, never before has the society been entertained so profitably by a speaker on this subject. Dr. Sippy is truly a master of this subject, his easy manner of handling the subject enabled those present to follow him and all were greatly benefited.

For some reason our annual banquet was not held this meeting but it was voted that after this it shall be held.

A committee consisting of Drs. Moore, Freeman and Kittler were appointed to arrange program for next meeting.

A vote of thanks was extended Dr. Sippy for his kindness to meet with this society and the benefit we received.

Report of the Secretary-Treasurer was read and on motion received and adopted. The matter of increasing our membership was open for discussion, there are several physicians in this County who are not members and as it is the desire to have all of them become members, the President stated he would make a greater effort

to induce them to join the society. It was the consensus of those present that something should be done to have all physicians become members of their county society to be in good standing in the state.

No further business the society adjourned to meet the second Tuesday in May, 1905.

#### LAKE COUNTY MEDICAL SOCIETY.

##### Officers.

President ..... Dr. W. C. Bouton, Waukegan  
Vice President...Dr. Charles E. Daniels, Waukegan  
Secretary-Treasurer...Dr. A. C. Haven, Lake Forest

A regular meeting of the Lake County Medical Society was held in Waukegan, Monday evening, November 7. Dr. Charles E. Daniels, of Waukegan, read a paper upon **Fistula in Ano**, in which he emphasized the necessity of thoroughness in opening every sinus to the bottom, and also spoke of the danger of over-dilatation of the anal sphincter.

Dr. J. C. Foley, of Waukegan, read a paper upon **"Eclampsia,"** in which he recommended accouchment force in which he relied upon manual dilatation; he also recommended morphine hypodermically with chloroform.

Dr. A. C. Haven, of Lake Forest, read a paper upon, **"Scarlet Fever,"** describing some of the peculiarities of the epidemic in Lake Forest of two winters ago.

The above officers were elected:

Waukegan's new hospital is now open and receiving patients. Many of the manufacturing plants in Waukegan and North Chicago have endowed beds in the new Waukegan Hospital.

Alice Home, Lake Forest Hospital, has just finished five years of operation, during which time five hundred patients have been received and cared for, more than one-half being surgical cases.

The Common Council of the city of Lake Forest has appropriated \$4,000 for the purpose of purchasing land for a new Isolation Hospital. Plans have been drawn by Messrs. Frost & Granger for a fine new building, thoroughly modern in every detail. Difficulty has so far been experienced in finding a suitable location, property owners promptly objecting to its proximity. A committee of the Council expect to overcome this obstacle.

#### MORGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Jacksonville the second Thursday of each month.  
Membership 40.

##### Officers.

President.....F. P. Norbury, Jacksonville  
Vice-President.....T. W. Hairgrove, Jacksonville  
Secretary.....D. W. Reid, Jacksonville

The Morgan County Medical Society met November 10 at the Library at 7:30 p. m. in regular monthly session F. P. Norbury, President, in chair. Members present, 11; visiting doctors, 4; other invited guests, 6. A special program had been arranged, consisting of papers read by Miss Bedford, of New York, associate editor of Table Talk; Miss Greer, superintendent of Training School for Nurses,



Passavant Hospital; and Miss Catlin, superintendent of Maplewood Sanatorium.

Miss Bedford's subject was **Dietetics as Applied to Nursing**. She first spoke of the starchy foods. In all this class of food the starch globules must be thoroughly broken up. Rice is a good example of starchy food, but not generally cooked long enough to break up the starch globules, preparing them for an easy digestion. In cooking starchy foods it is not sufficient to cook, merely till it has reached its limit of expansion, it must be cooked longer; thickened starch is not cooked starch. Potatoes are a good starchy food, but difficult of digestion by weak stomachs. The best type of starchy food is found in grains, and as prepared in bread, properly raised and above all, properly baked, is at its best. Much bread is not sufficiently baked. Bread that "doughs" in the mouth will "dough" in the stomach, and in this form is impervious to the gastric juices. Thorough baking not only makes the bread palatable, but makes it easier of digestion, as part of the starch is changed to dextrine, the first step in digestion, as shown by the sweet brown crust on the outside, when it is most perfectly baked.

Among the fats, butter is the most digestible in common use. While fat is a necessity in food, few forms of fat are readily assimilable. Hot fats, as butter, lard, etc., used for cooking, are broken up at a temperature far below the burning point of fat, liberating indigestible fatty acids. Where melted butter may be used to advantage in a sauce, the same butter heated to a high degree and mixed with flour as an initial step coats the starch globules with the objectionable disintegrated fat and protects them from the action of the digestive fluids. Thin slices of well-baked, or lightly toasted bread, coated with good butter, is not only a palatable, but an easily digested and highly nutritious combination of starch and fat. Another form of fat easily assimilated is lightly fried, fat bacon, while fresh roast pork is the opposite. The curing changes the fat of bacon and it is the fat bacon, not the lean meat, or that form which all the "grease" is fried out that is of value. Thin, fat bacon is becoming a rival of cod liver oil in the treatment of consumption.

The egg is the type of the albumins. But eggs are best cooked alone, as they require less heat than almost any article of food to which they are added. Custards containing eggs should be lightly cooked. Eggs impair the digestibility of an otherwise good pudding. The heat that will cook a pudding or a cake destroys the utility of the contained eggs. Albumen coagulates below the boiling point of water. To "boil" eggs renders the whites impervious to the digestive fluids. Eggs should be cooked below the boiling point of water. The white should be a jelly-like translucent mass.

As to flavoring, invalids are hypersensitive. Not all flavors are wicked. Much depends upon the strength or amount used. An agreeable flavor adds to the value of food. To be digestible, food must be palatable. Many vege-

table spices and flavors can be used profitably if used in moderation. Sugar is good, but if used for coffee, say, it should not be also used at the same meal for oatmeal and in sweetened cookery, as cake, etc.

Invalids are hypercritical about the appearance of food. A working man wants a "good square meal," and feels equal to a whole table-full when he sits down, but an invalid's slight appetite disappears if the bread is too thick or the cup too large. An ideal arrangement on the dish should tempt the appetite. The shade of the toast or the shape of the butter may decide the question of the invalid's appetite.

Miss Greer's paper was a picture of a trained nurse as she exists today. The paper was a very thoughtful, earnest presentation of the arduous duties of a trained nurse; the high qualifications demanded; the years of hard preparatory work that go to make up her professional education; the discouragements, the homesickness, the pleasure and rewards accompanying. She spoke of the loyalty to the physician that was drilled into her from the beginning to the end of her course, and made an earnest plea for a like loyalty on the part of the physician to the trained nurse as a member of the kindred profession.

Miss Catlin, after some remarks on the uses and methods of massage, gave an admirable demonstration on the living subject, accompanying her movements by a verbal description, giving the lesson the full effect of a clinical lecture.

#### PIKE COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly. Membership 32.

##### Officers.

President ..... H. T. Duffield, Pittsfield  
Vice President ..... W. E. E. Shastid, Pittsfield  
Secretary and Treasurer ..... R. H. Main, Barry

The Pike County Medical Society met at the office of Dr. H. T. Duffield in Pittsfield, President H. T. Duffield presided.

Members present were: Drs. J. Smith Thomas, W. E. Shastid, Thos. W. Shastid, F. M. Crane, P. W. Brown, R. H. Main, H. T. Duffield, G. U. McComas, O. F. Wellenreiter, R. O. Smith, Geo. A. Humpert and B. B. Dunn.

Visitor, Dr. J. E. Melton, of Fish Hook.

The following were elected to membership: M. V. Collins, of Barry; W. F. Bowman, of El Dara and J. E. Melton, of Fish Hook.

Dr. J. Smith Thomas read a paper on **Typhoid Fever, Its Management and Treatment from the Standpoint of a General Practitioner**. His remarks contained many excellent suggestions relative to the management of this disease. He also asserted that in his opinion this disease is of a milder type in the south part of Pike County than in the northern part of the same county, but no satisfactory explanation was offered for this supposed condition.

Dr. W. E. Shastid reported on the State meeting at Bloomington, speaking at length on the symposium on **Tuberculosis**. In his opinion much good will be accomplished along the line



of the **Cure and Prevention of Tuberculosis**, and he thinks that this meeting is the beginning of an epoch in the work.

Dr. R. H. Main advocated a general quarantine against venereal diseases asserting that:

1st, in his opinion more damage is done to public health from these than from all other contagious diseases combined barring tuberculosis and pneumonia.

2d, that venereal diseases are decidedly on the increase.

3d, no other contagious diseases could be so easily prevented by strict quarantine, and

4th, that the idea is feasible.

By a vote of the members the January meeting will be omitted.

#### WHITESIDE COUNTY MEDICAL SOCIETY.

Regular meetings held in Morrison and Sterling, consecutively, bi-monthly, second Wednesdays.

##### Officers.

President ..... Chas. Parker, Sterling  
Vice President ..... E. P. Sullivan, Morrison  
Treasurer ..... J. T. Keefer, Sterling  
Secretary ..... C. G. Beard, Sterling

The Whiteside County Medical Society met in the Court House at Morrison, October 12, 1904.

After reading the minutes of the last meeting, Dr. R. H. Shaw, Erie; Dr. S. B. Diamond, Albany; Dr. R. E. LaRue, Erie, were elected as members of the society.

Dr. Anthony read a paper on **Puerperal Sepsis**. This paper was discussed by most of those present, upholding Dr. Anthony's views on treatment.

Dr. Diamond reported a case of **Puerperal Sepsis** complicated with Lobar Pneumonia with a maximum temperature of 108.5 with recovery.

Dr. Beard read a paper on **Gonorrhoea** and its treatment. This paper upheld the irrigation treatment and also pointed out the liability to cause Bartholmitis by passing a large size speculum with a report of three cases.

Those present were: Drs. Griswold, Shaw, Diamond, Proctor, Sullivan, Newton, Fitzgerald, Mathew, Overbalsen, Starns and Beard.

#### MCLEAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Bloomington the first Thursday of each month. Membership 95.

##### Officers.

President.....F. C. Vandervort, Bloomington  
Vice President ..... A. L. Fox, Bloomington  
Secretary-Treasurer.....R. A. Noble, Bloomington  
Censors: C. M. Noble, J. E. Fenelon, C. E. Chapin

The regular meeting of the McLean County Medical Society was held at the High School building, Thursday evening, November 3, 1904.

The following amendment was read to be voted on at the December meeting:

"On and after the first day of January, 1905, no member of this society shall accept the position of club, society, or organization physician, or do or agree to do medical or surgical work for any club, society or organization at a less rate than the regular customary charges for like services rendered by other physicians for

patients not members of such club, society or organization.

Also, in no case shall any physician agree to attend the families of the members of such club, society or organization at half price or a less price than the regular rate.

Nothing in this section shall be construed as preventing any member from attending the worthy poor at a less rate or from giving free services to those who are too poor to pay anything, or from acting as city, county, or town physician, health officer, or from serving under any political appointments or acting as surgeon for any railroad company under contract.

Any violation of this by-law shall be considered unprofessional conduct and shall render the member guilty thereof and liable to suspension or expulsion from this society, as the society may determine."

On motion of Dr. E. Mammen, the regular order of business was dispensed with and the meeting was turned over to the Health Committee.

Dr. J. B. Taylor, chairman, made short introductory remarks, regarding the work of the committee and introduced the essayists of the evening, Drs. J. K. P. Hawks and R. A. Noble.

Dr. Noble's paper was confined to **Bacteria in Milk**, together with exhibition of stereoptican plates of bacteria found in the milk supply of Bloomington. Dr. Hawks read a very able paper on the **Practical Application of Bacteriological Methods to the Producer and the Consumer**.

##### Bacteria in Milk.

**Robert A. Noble**, Bloomington, Ill.: Milk is probably used more frequently as a food than any other one article. Milk enters into the composition of so many of our articles of diet; it is the sole food of infants and with invalids, it is the principle article of food; therefore, it is of the utmost importance that the producer furnish a pure, clean, unadulterated supply of milk to the consumer.

Many elements enter into the consideration of the production of a proper milk supply, but nowhere is "cleanliness next to Godliness" more applicable than in the production and care of milk.

The modification of dairy methods has been most rapid in the past ten years, due to new conditions and new discoveries; but nothing has had a greater influence on the betterment of dairy conditions, than the knowledge which has developed concerning bacteria and their relation to milk. "Sometimes the connection between modern methods and bacteriological discoveries is very apparent; sometimes it is less apparent or only incidental, but there is no one series of facts which has produced such a profound effect upon dairy processes as those associated with bacteriology."

Bacteria are microscopic, colorless plants which are extremely abundant in earth, air and water. They are closely related to yeasts and moulds and belong to the class of colorless plants called fungi.

Ordinarily, bacteria are simple in form and they have been compared to billiard balls, lead pencils and corkscrews. In size these germs

are so minute that it requires a microscope magnifying many diameters, to enable us to study them successfully. Each bacterium is composed of but one cell.

Bacteria reproduce themselves in one of two ways, either by simple fission, in which the cell divides into two cells, or by spore formation, in which the reproducing part of the cell is collected into a single mass called a spore, after which the wall of the cell breaks down and the spore is liberated. Under proper conditions this spore develops and reproduces the germ.

There are over two hundred varieties of dairy bacteria found in milk and its products. These germs originate from different sources and some conditions are more conducive to their growth than others.

We will divide the bacteria found in milk into the following groups or classes: (1) Those forming lactic acid; (2) Those germs which produce fermentation and putrefaction and (3) a miscellaneous group, including special germs of disease.

#### (1) Lactic acid bacteria:

These occur in a variety of forms, appearing mostly as short oval rods or cocci, resembling each other closely in size and shape. The source of contamination is from the cow or from hay or both. If these germs are found in milk, they have been introduced during the time of the milking. Milk maintained at a moderate temperature for a number of hours, affords an opportunity for these germs to multiply very rapidly.

The presence of lactic acid bacteria in milk, in large numbers, signifies that the milk has not received proper care in its handling.

#### (2) Germs producing fermentation and putrefaction:

These germs have a direct injurious effect on the milk, by reason of the enzyme or ferment which they produce. Two distinct types of action are recognized,—a curdling action and a digestive action.

The tryptic ferment, which has a digestive action on the curd converts the milk into a semi-transparent fluid, with a variety of tastes and odors indicative of putrefaction. Germs producing this putrefaction are readily distinguishable, as when grown on gelatin, this enzyme or ferment digests the gelatin and causes it to liquefy. These germs producing liquefaction are found in various forms of filth, and their presence in large numbers, in a sample of fresh milk, is to say the least suspicious.

#### (3) Miscellaneous group:

Types of bacteria which color the milk, produce gas or disagreeable odors or flavors, are always objectionable.

Some bacteria thrive in milk, and while showing no direct injury to the milk, may cause disastrous results to the consumer. These are germs of disease and should be carefully guarded against. Other germs produce poisonous toxins and are directly injurious to the stomach of the infant or invalid and are credited

with being the cause of cholera infantum and other similar maladies.

The sources of bacterial contamination of normal milk are many. The most frequent sources are the cow itself, the air, the milk vessels, and the milkers.

The rapidity with which germs grow, depends largely upon the temperature at which the milk is maintained. If from a sample of milk, two portions are taken and one portion is kept at a temperature of 40° F. and the second portion maintained at a temperature of 80° F., we will find that comparing the bacterial count of the two portions at the end of twenty-four hours, with the count of the original sample when fresh, that the portion which has been maintained at the higher temperature has a greater number of bacteria per cubic centimeter, than the portion which has been kept at the lower temperature.

The determination of the extent of bacterial contamination may be considered under two heads, quantitative, in which we ascertain the number of germs in a cubic centimeter of milk and from that draw conclusions as to the suspicious nature of the milk; differentiation of species in which individual bacteria are isolated and studied. The majority of work done in bacterial analysis is confined to the quantitative work in ascertaining the number of germs in a cubic centimeter of milk.

The addition of preservatives to milk, the one most commonly used being formaldehyde, which masquerades under the name of preservaline, formin, freezin, etc., retards the rapidity of the growth of bacteria in milk. Milk, to which formaldehyde has been added, if examined on successive days, shows a gradual disappearance of the preservative from the milk. With this disappearance, the germicidal action of the formalin keeps tally, so that milk which at first may appear good from a bacteriological standpoint, when examined after the germicidal action of the formaldehyde is exhausted, may be found to be badly contaminated. The use of preservatives in milk is a shield for the producer to cover his errors in the production and after care of the milk (1) by disguising milk which has been badly contaminated, and (2) by covering over improper after care of the milk in its transportation to the consumer.

The number of bacteria in milk is dependent upon three factors: (1) The care in the dairy; (2) the care in the transportation; (3) the temperature at which the milk is maintained. Milk produced where the sanitary conditions are bad, will contain a large number of bacteria. The qualitative analysis of milk enables us to determine approximately the cleanliness of the conditions under which the milk has been produced.

Milk, which is only a few hours old, containing a large number of bacteria, indicates that the conditions under which it was produced were unclean. If the sample is old and the number is large, it indicates that either the original source of production was unclean or that the milk has not received the proper



care in its subsequent handling. If the number of bacteria is small it indicates (leaving out the question of preservation and sterilization) that the conditions governing production and transportation are satisfactory.

By modifying the common bacteriological methods of study it is possible to differentiate the different groups of bacteria. To do this it is necessary to prepare special culture media which we call litmus gelatin. Examination of the litmus gelatin plates after a few days, shows, if any of the acid producing germs are present, red colonies surrounded by a red halo scattered over the plate. As has been stated, the enzyme bacteria are called liquefiers, because the enzyme has digestive properties which liquefies the culture media. Two forms are recognized, those which liquefy rapidly so that in thirty to forty hours the plate may become completely liquid, and a form which produces pits or indentations in the gelatin plate.

If the number of liquefiers is high it indicates that the milk is suspicious and suggests that the opportunities for contamination at the dairy are considerable.

It is rare to find lactic acid bacteria in fresh milk. If the milk is kept at a moderate temperature for a few hours, the few lactic acid bacteria present grow very rapidly and soon outnumber all the other species combined. If the total number of bacteria in a single sample is high and the percentage of lactic acid bacteria is low, the milk is abnormal and suspicious, as milk produced under proper conditions will by the time bacteria appear in quantities, have a large percentage of lactic forms.

If a sample of market milk is found to contain a large number of bacteria and the large percentage of these are lactic acid germs, it signifies that the milk has been kept at a moderate temperature for a number of hours. On the other hand, should the sample contain a large percentage of the putrefactive type or of the miscellaneous forms, it renders the milk suspicious and suggests great primary contamination of the milk. Filth about the barn or cow is likely to contaminate the milk with a considerable variety of bacteria and the presence in a sample of milk of a considerable number of miscellaneous types, suggests excessive contamination.

That class of diseases which manifest themselves by intestinal disturbances, in which diarrhoea is a more or less constant symptom, is of considerable importance. These diseases usually occur in the warm weather when the opportunities for bacterial growth are the best, and occur most frequently in children, the disease being styled, summer complaint, cholera infantum, etc.

If the bacteria have an opportunity to multiply in the milk before it is used as food, they produce their toxic or poisonous secretions in the milk. When such milk is taken as food these toxic secretions act as direct poisons and

produce the intestinal disturbances which are manifested by the diarrhoea.

It is possible that the bacteria may multiply and produce their poisons after they reach the stomach and intestines. In such cases the diarrhoeal disturbances would be due to the growth of the bacteria in the intestine.

We have considerable evidence which shows that in part, at least, the bacteria which have been described as enzyme or putrefactive bacteria produce these intestinal symptoms.

#### Summary.

1. Normally, bacteria are not present in milk, and their presence in milk is evidence of introduction from outside sources.
2. The bacteria found in milk are of the lactic acid forms, germs of putrefaction and a group of miscellaneous types.
3. The presence of lactic acid bacteria, in large numbers, signifies that the milk has not received the proper care in its handling and transportation, to the consumer.
4. The presence in milk of a large number of bacteria of miscellaneous types or of the putrefactive type is indicative of great contamination from the source of production.
5. Preservatives in milk, aside from their chemical action in the stomach interfering with digestion, serve as a shield to the careless and unclean methods of the producer in his handling of the milk, thereby enabling him to deceive his patrons.
6. While pasteurization limits the multiplication of bacteria in milk, if the milk is produced under proper conditions (cleanliness) and receives the proper care in its subsequent handling (cleanliness and maintainance at a low degree of temperature) it will not be necessary to pasteurize milk.
7. The number of germs in milk is dependent on three factors, the care in the dairy, the care in transportation and the degree of temperature at which the milk is maintained. It lies in the hands of the producer to furnish milk to the consumer, which has a low bacterial content, if he will exercise the proper care in the production and handling of the milk.
8. Bacteriology gives us definite knowledge concerning milk contamination, such as the number of germs, the types, etc., and from this data we are enabled to judge of the purity and cleanliness of the source of the milk supply.

#### Some Practical Results of the Study of Bacteria in Milk, to the Producer and Consumer.

**J. K. P. Hawks:** We have listened to this very entertaining and instructive paper of Dr. Noble with a great deal of interest. He has told us many things which no doubt are either new to us, or at least have never before been brought so forcibly to our attention. And I suspect some of the pictures have had the effect of alarming some of us. And we have some reason for uneasiness if not alarm. These pictures have demonstrated to us, as could have been done by no other method, that bacteria are real things, and not creatures of the imagination.



That they have power for evil, is also not to be gainsaid. The mortality statistics of our cities prove without a shadow of a doubt, that the vast majority of infant deaths are due to intestinal troubles induced by bacteria in milk, which constitutes the children's food, and that with the improvement of the milk supply, the infant mortality decreases in direct proportion. The cry to save the babies is not all pure fad, nor is it newspaper advertising. He who gives a drink of pure milk to one of these little ones in the name of humanity, is as worthy of Divine approbation, as he who gives the cup of cold water in the Master's name.

The question we have now to consider, is the practical results of all this study and investigation. Seeing that certain bacteria in milk are very harmful, being the outcome of contamination and unsanitary methods, how is the dairyman to eliminate them, and how is the consumer to know that he is getting wholesome milk?

Let us first take up the question from the standpoint of the producer. He is expected to furnish his customer with clean wholesome milk. It is not enough that the milk be of the right chemical composition, namely 3% or more of butter-fat or cream, 12% or more of total nutritional solids, and no added material, but we must be assured that it is free from bacterial impurities as well. Until the careful study of the lower forms of life, and the demonstration of how much they have to do with life's affairs, with its sickness, and its health, and with its various processes, compliance with this chemical standard was all that was required. This is still insisted upon, and is required by law, but in addition to this, milk must now be clean to a sanitary degree. The dairyman, if he is alive to the requirements of the present, directs his energies, not only to the production of milk which is up to the chemical standard, but to the production of clean milk.

There are three methods, by means of which the number of bacteria in milk may be reduced, all of which have been practiced, in one or more instances, in our city.

First. By the use of chemical antiseptics or germicides. This effectually stops the growth of the germs. Milk so treated will not sour readily, indeed it sometimes cannot be made to sour at all. A bottle of it sold on the streets of Bloomington this past summer, stood for four or five days, in my office without souring. This is an efficient method, from the standpoint of the producer who has lost his conscience, because he is enabled to take dirty, contaminated milk, which would sour in a few hours, and by adding a small amount of alleged harmless Preservaline, or other preparation, is enabled to deliver sweet milk to his customers. But the customer gets some things he did not pay for, filth, dust and chemical poisons, which were produced by the growing bacteria, before the preservative put an end to their activities, or a milk which is pickled and embalmed, by an early addition of the preservative, which has fixed and changed the condition of the milk, and made it insufficient or harmful for the hu-

man stomach. Not only have preservatives been discovered time and again in Bloomington milk, but one at least of the culprits, has confessed to its use.

Second. By treating the milk so that the contained bacteria are killed by heat. These processes produce milk termed variously as Sterilized milk, Pasteurized milk, etc., according to the method, and the degree of heat to which it is subjected. This method is very valuable in improving milk which is apt to be contaminated, or which has been shipped for a considerable distance, before being delivered to the consumer. Pasteurized milk is good, and does very well if it is impossible to obtain milk which is produced carefully, and is clean. In our large cities Pasteurizing plants have been established, and are doing a most beneficent work, especially in improving the milk supply of the poorer classes. However it is a fact of experience, that milk which has been heated sufficiently to kill bacteria, is deprived of some of its nutritional and life giving properties, which make it so valuable a food. This is borne out by the observation that young children fed on these heated milks do not develop the bone and muscle that natural milk produces.

These two methods take the milk, which has been allowed to become foul, and contaminated by dirt, and careless handling, and attempt to convert it into a wholesome product.

The third method, and the one to be strongly recommended, does not attempt to clean up dirty milk, and to kill the growing bacteria, but following the old saw that "An ounce of prevention is worth a pound of cure," endeavors to produce a milk which is clean, pure and free from bacteria. And this is what the better class of dairymen, are doing for the public today.

Indeed all this discussion hinges about the fact that milk is probably the most readily contaminated of all our foods, and is sure to become so unless handled with great care. Bacteria multiply in it with great rapidity, and it is very necessary that it should be protected in this regard, especially from those germs which are known to produce disease. No elaborate apparatus is needed for this work. The only requisites are cleanliness, scrupulous and painstaking cleanliness, in every operation from first to last, and the thorough cooling of the milk as soon as drawn, and the maintainance of this low temperature until the milk is delivered to the customer. To assist in carrying out this idea of cleanliness, every detail of the dairy equipment and management must be carefully studied, and everything centered on this one object.

The farm should be one of the best obtainable. The idea that any rough patch of timber land, overgrown with underbrush, and filled with cockleburrs and thistles is good enough for pasture will have to be discarded, if high grade cattle and good milk are to be produced. Pasture with good grass, plenty of pure, clean water and sufficient shade are essential for good results.

In the production of good milk, no one thing is of more importance than that the cows be

kept out of the mud. Many yards, into which dairy cows are turned every day for exercise, are knee deep in mud and manure, in winter and spring, if not during the entire year.

The yard should slope gently from the barn and be well tiled, and in addition should be paved with gravel or cinders, so that it will form a smooth hard surface that will not readily cut up. The entire yard must be kept clean and free from manure and other filth. All manure should be removed every day, and to at least a distance of 100 feet. No hog pen should be allowed within 200 feet of the barn or yard, as the odors are readily absorbed by the milk and decrease its value. Flies are a fruitful source of contamination, and are sure to be present in swarms if the barns are not kept exceptionally clean. They annoy the cattle, and worst of all they carry dirt and bacterial contamination and are liable to deposit it where it can infect the milk. Recent investigations seem to show that various diseases and typhoid fever in particular may be propagated in this manner.

The cow stables must be light, well ventilated and clean. The day of the old cow shed has departed if we want good milk. The building need not be extravagantly expensive, but it should be light, dry and well ventilated. The things most universally lacking, or inadequately supplied in dairy barns, are light and pure air. The exact number of cubic feet of air space per cow is not of so much importance, if some good system of ventilation is adopted, which provides for a change and a constant supply of fresh air from the outside. The ceiling above the stalls must be tight, so that all dust and refuse from the hay mow shall be excluded.

The interior of the barn ought to be white-washed at least once a year. Whitewash is one of the cheapest and most efficient of disinfectants and deodorants. It absorbs the odors of the stable, and does not give them up later as the natural wood does.

A cement floor is the most sanitary, but has the disadvantages of being cold in winter, and of causing the cows to slip.

It is of importance that the floors of the stalls or the platforms on which the cows stand, should be of the proper length; if too short the cows cannot lie down in comfort, if too long they become soiled by the droppings, which fall on the rear of the platforms. This point is considered of so much importance by dairy experts that some particularly complete stables are supplied with adjustable platforms, some that they may be suited to the individual cows.

The gutter at the rear should be open so that it can be readily cleaned, and the stalls and gutter should be cleaned at least once a day, but always at least an hour before milking time, so that any dust may have a chance to settle.

None but good cows, and those in the best of health should be used as milk producers. The herd of the University of Illinois consists largely of Holstein-Friesians, Jerseys, Guernseys, and Ayrshires. While it is not absolutely essential that the cattle be of these aristocratic breeds, yet cows should be bred as milk producers with as great care as are beef cattle.

Tuberculosis in a herd is a menace to public health, and should be eliminated by careful veterinary inspection and an occasional tuberculin test. Disease of the udder or any fever should unfit the sufferer for service as a milk producer.

The feed of the cows is important. Sudden changes, especially to green feed, are to be avoided, as the digestive system of the animals is apt to become deranged, and the milk suffers as a consequence.

The cows must be kept clean. Dirt on udder, or flank, or tail is a frequent source of contamination. The tail should be clipped so as to clear the ground, and the long hairs about the belly trimmed. The udder should be washed thoroughly before milking, for every particle of dirt and filth, which gets into the milk, conveys bacteria which multiply rapidly. After cleansing, the cows should not be permitted to lie down until the milking process is over.

The milkers as well as the cows must be healthy. A milker with sores on his hands is as dangerous as a cow with an infected udder. More than one epidemic of scarlet fever and diphtheria has been traced to boys milking, before they had completely recovered from one or the other of these diseases. Clean, white wash clothing should be worn, and kept clean. The milker's hands should be washed thoroughly with soap, water, and brush before he begins, but should be kept as dry as possible during the milking process.

All vessels and other utensils used in the milking or in handling the milk should be of glass, metal, or glazed earthenware, and must be kept absolutely clean and should be cleansed after using, by being washed with hot water, soap, and soda solution, and then sterilized with live steam or boiling water, for twenty minutes. The bottles or cans when returned from the consumer must be washed and sterilized as just described. The practice of bottling milk on the street from a can into bottles just collected from customers, is most strongly to be condemned, and should be punished by severe penalties. I have seen this very thing done on the dusty streets of Bloomington, with the wind blowing 40 miles an hour, and raising clouds of dust. This same dairy puts formaldehyde in the milk.

As soon as drawn the milk should be removed to the cooling room, which should be at some distance from the stable, and there aerated and cooled. This is done by setting the cans in a tank of water, or by passing the milk over a cooler. The sooner the milk is cooled and the lower the temperature the better. Bacteria which get into the milk during the milking, develop very rapidly at body temperature, but if the milk is cooled to 60 F., they develop very slowly, and to 40 F. the development is entirely suspended. Milk thus cooled and then bottled should remain sweet for a considerable length of time.

The bottled milk should be transported as rapidly as possible to the consumer, and the temperature should not be allowed to arise



above 50 F. at any point in the transportation. Milk which is produced under conditions such as have just been described is clean milk. It costs more to produce such milk, and it should command a higher price than the ordinary kind. There should be a demand for such a product, and the intelligent public should be willing to pay an advanced price for it.

I wish to say a few words about certified milk. This is simply milk which is produced under hygienic and sanitary conditions. The dairy, and the preparation of the milk, are examined by inspectors, and the milk subjected to chemical and bacterial examinations. If the dairy methods are found to be correct, and the product shows a high degree of chemical and bacteriological purity, the dairy is given a certificate, stating the findings of the inspectors. This certificate allows the dairy to advertise its wares as certified milk and cream. Such inspection is entirely voluntary on the part of the dairy, and the expense of the inspection and certificate is borne by it. As a result the product is enabled to command a higher price than ordinary milk. Real certified milk is clean milk, and Bloomington should have at least one dairy with enterprise enough to produce it.

There is another side to the milk question. The trouble does not lie wholly with the producer (the consumer has some duties and responsibilities as well). The public generally gets what it demands, and is willing to pay for. The vast majority of people fail to discriminate between good and bad milk. If it is sweet when delivered, and does not contain so much dirt that it is plainly visible to the eye, they make no complaint. Again, milk may be delivered in good condition and at a low temperature, but if allowed to stand in a hot kitchen or on a sunny back porch for an indefinite period, the milk man can hardly be held responsible if it sours quickly.

The medical profession understands the need of clean milk, as no other class of citizens does, and if the members of the McLean County Medical Society would take it more systematically to heart, and do more missionary work among our patients, as we visit them from day to day, the general public might be gradually educated to recognize the necessity of an improvement in the milk supply. When an educated public sentiment demands and insists on having good milk, it will be forthcoming, and not until then.

An efficient municipal health department, if backed by sufficient ordinances, can do much by a few necessary exposures and prosecutions, and by constantly inspecting dairies, and examining the milk furnished. The moral effect of knowing that he is being watched, is a great stimulation to the average dairyman to improve his methods.

As an instance of what an energetic health department can do if it tries and is given the means, I would like to call attention to the annual report of the Board of Health of Montclair, N. J. It is a pamphlet of 55 pages and contains among other things, a report of the

water supply, and ice supply, both of which are examined chemically, and bacteriologically, every month in the year. The plumbing and gas fitting are subject to inspection and condemnation. Measures are taken for the extermination of mosquitoes, which are now known to convey malarial contagion.

But the most significant feature of the report is the 21 pages devoted to the milk supply. After an introduction on general conditions and improvements secured, the report takes up in detail the 27 dairies in the town by name. It gives the results of the numerous chemical bacteriological, and temperature tests, made during the year, and follows with a brief but explicit summary of conditions and recommendations. Let me quote a few:

"Mr. C. has apparently made an honest effort this year to conduct his dairy in a careful manner and has to a large measure succeeded. The milk is of good quality, but at times the bacteria are still somewhat high."

"A. S. While the dairyman's barn is cleaner than it was last year, it cannot be commended. The analysis of the sample of Aug. 24, 1903, shows that it was below grade; the milk was very dirty and there is no apparent reason why it should be sold in town."

"Mr. F. has delivered milk of fair nutrient quality, which has been consistent in having plenty of dirt and bacteria in nearly every sample."

"W. H. This excellent supply is raised on the farm of W. H. H., of Richfield, and can always be relied upon to be pure and of good quality."

This report is worthy of most careful study, and if Bloomington could produce such a document, this committee would consider its labors rewarded and its services no longer required.

One reason why the consumer is to blame for the quality of the milk is because he wishes his milk delivered early in the morning. He prefers it in glass bottles, and wants the cream separated from the skim milk, so that it can be readily poured off, and used for his breakfast coffee and oatmeal. This means that he must use milk which was prepared the day before. He thinks he is getting morning's milk, because it is delivered in the morning, and the dealer, probably agrees with him in his delusion. Whereas the facts in the case are that he is using yesterday's milk, which has probably been kept over night in some milk depot, which too frequently is also a stable. It would be much better to have the milk delivered during the day and placed in the clean refrigerator, of the consumer, for use the following morning. But then the consumer would know that he was getting yesterday's milk, and would not be satisfied.

Another reason why the consumer is responsible for the poor milk is this: Suppose A. establishes a model dairy, his cows are clean, his yard and stables are sanitary, he insists that his milkers and handlers take the proper precautions to prevent contamination, and as a re-



sult furnishes a good, clean milk. B. runs a slip-shod dairy, and furnishes a milk which looks as good as A's, but which in reality is much inferior. A. finds that his expenses are considerably greater than B's, yet if he charges a cent more a quart, to make up for this, he finds his customers going across the street to B. This is the way he is encouraged to produce a good quality of milk.

The consumer has a duty to perform in acquainting himself as to the conditions under which the milk is produced, and he should also know what to expect in the way of good milk. Milk produced under sanitary conditions should contain no sediment. Dirt which settles in the bottom of the receptacle is a sure sign of uncleanness in the handling. Milk if kept in bottles in which it is delivered and at a temperature of 50° F. or below, should remain sweet for at least 48 hours. Not only should it keep for a reasonable period, but it should not keep too long. Milk which sours within 24 hours contains too many bacteria; milk which keeps over 60 hours probably has too much formaldehyde. The cream should be evident, and in proper amount. This can readily be told approximately. When milk is delivered in quart bottles, the cream line should be about at the place where the bottle begins to taper to the neck, provided there is 4% of fat.

If you want good milk, you should not only insist upon it, but should visit your dairy, inspect the farm, cattle, and barns, and see if they are well-kept and clean. Watch the milkers, see if they wash their hands, and the cows before milking. See if any ice is used about the place. Then inspect the depot and see if the milk and horses are kept together. And after the milk is on your possession, do not fail to keep it in a cool place, free from dirt and odors. If it comes in bottles leave it there until ready to use it.

If you are not satisfied with your own examination, the Health Committee of the Bloomington Business Men's Association, which is also the Health Committee of the McLean County Medical Society, is ready and willing to examine milk submitted to it for this purpose.

To recapitulate:

1. The consumer should examine the milk for himself.

(a) As to sediment.

(b) As to souring too soon.

(c) As to not souring soon enough.

(d) As to the proper treatment of cream. If that is not sufficient, let Health Committee test the sample.

2. The consumer should examine the surroundings and see if the milk is prepared properly.

3. The consumer should handle the milk properly himself.

In this manner, if the public wishes good milk, demands it, is willing to pay for it, and then makes sure that it is furnished, then and not until then, will we obtain milk which is a proper food for the growing child, the sick, the invalid, and the healthy man and woman.

## CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

### Officers.

President ..... Dr. Frank Dunham, Robinson  
Secretary ..... Dr. H. N. Rafferty, Robinson  
Treasurer ..... Dr. C. Barlow, Robinson

The Society held its regular bi-monthly meeting at the office of Drs. Rafferty, in Robinson, on Nov. 10, with President Frank Dunham in the chair.

The members present were Dunham, Fuller, Midgett, Barlow, and T. N. Rafferty. In the absence of the secretary, T. N. Rafferty was appointed secretary pro-tem. The minutes of the previous meeting were read and approved.

Dr. Fuller, as chairman of the committee appointed to make a special report to the State Board of Health, reported no progress, and asked for further time and more explicit information. On motion, the report was received, and the committee was continued.

Dr. G. W. Fuller read a carefully prepared and instructive paper on **Auto-intoxication vs. Malaria**. The paper was well received, and discussed by all present. On motion Dr. Fuller was requested to read his paper again at the next meeting of the society, that the subject might be brought to the attention of more members of the society than were present at this meeting.

Cases were reported by Drs. Midgett, Fuller, and Barlow, followed by a running discussion, in a conversational way, of things generally interesting to medical men, including many important topics.

There being no further business, the society adjourned, to meet at the office of Dr. Firebaugh, on the second Thursday in January, 1905.

## ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

### Officers.

President ..... L. H. A. Nickerson, Quincy  
First Vice Pres ..... John A. Koch, Quincy  
Second Vice Pres ..... J. M. Grimes, Camp Point  
Secretary ..... Geo. E. Rosenthal, Quincy  
Treasurer ..... R. J. Christie, Jr., Quincy  
Censors: C. D. Center, Jos. Robbins, S. B. Ashton, Quincy.

Delegate State Society..E. B. Montgomery, Quincy

The regular monthly meeting of the Adams County Medical Society was held at the Chamber of Commerce, Nov. 14th, President Nickerson in the chair. Drs. E. G. Hedrick of Loraine and Geo. A. Gilbert of Adams, were elected to membership.

Those present were Drs. Ashton, Brenner, Byers, Burch, Beirne, Center, Christie, Collins,

Gill, Gilliland, Hatch, Hart, Knapheide, Koch, Knapp, Knox, Liesen, Montgomery, Nickerson, Pfeiffer, Reticker, Robbins, Rice, Rosenthal, Sigsbee, Tull, Vasen, Wells, Williams, W. W., Williams, G. G., and Zimmerman.

The following paper on **Ptomaine Poisoning** was presented by Dr. F. E. Nichols at the October meeting:

#### **Ptomaine Poisoning.**

**Dr. F. E. Nichols, Quincy:** The complexity of the conditions governing the formation and action of ptomaines upon the human system, makes it exceedingly difficult to treat of in a paper of this character and with its limitations. A large number of ptomaines have been isolated which show a very wide variation in their toxic qualities; ranging from the most virulent type to the almost innoxious diamines. Whether this variation is due to the action of different varieties of bacteria, or to the action of the same bacteria on different materials, or whether it is due to varied conditions under which the action takes place is very difficult to determine. Added to these difficulties are the idiosyncrasies of the individual.

Clinically we are called upon to face this many sided problem with but too meagre data to govern our actions in a given case; and often with no symptomatic warning early enough to enable us to remove the poison while it is yet within our reach; for frequently the manifestations are so slight, until the poison has entered the blood, that no alarm is given till the destructive process is well under way.

The laboratory work upon this subject has been splendidly done. It is, however, desirable that more clinical data be gathered, for it is obviously from this source that we must look for suggestions as to the best means of preventing and combating the effects of these poisons. I wish, therefore, to briefly report a few of the cases which have come under my immediate observation, with the conclusions at which I have arrived regarding the formation and introduction into the system of these poisons.

Our time is too limited for an exhaustive report upon these several cases here presented, but I have sought to give the most salient points of each without pretention to a complete minute report of them.

**Case 1.** Girl, aged ten years, rather delicate with weak digestion; ate sandwiches made of prepared ham, both for dinner and supper at a June picnic. Was indisposed the next day and vomited freely the following night. Had very free movement of the bowels. This was not very unusual for her after slight indiscretion in diet, and little was thought of it. The next day she was somewhat drowsy and slept some during the day. She insisted that she was not sick but tired from the days outing and a wakeful night. She had a slight sore throat and a very mild millitary rash noticeable in the folds of her body.

The following night she was very restless and talked in her sleep. At seven o'clock in the morning she arose, went to the bath room in the ordinary way but upon her return it was noticed that she seemed dazed; did not answer when spoken to and did not notice any thing. She passed rapidly into coma and was dead within an hour. Immediately after death she became very much discolored showing marked hypostatic tendency.

**Case 2.** Girl twelve years old ate of the same sandwiches for dinner only. Bowels inactive. Was taken, on the third day, with vomiting and diarrhoea, with great prostration, sore throat and slight cutaneous rash and great restlessness. She reacted very promptly and was fully recovered in a week.

**Case 3.** Boy four years old ate of boiled ham. Vomited freely on the second day. Free bowel movement, slight sore throat and rash with extreme prostration lasting a few hours. Responded promptly to treatment and was well in a few days.

**Case 4.** Girl aged twelve, delicate with poor digestion and sluggish circulation had repeated attacks of which the following is typical. Came home from school one winter evening severely chilled and fatigued; ate a hearty evening dinner and was taken with vomiting the next morning; bowels moved freely; skin eruption similar to bold hives; sore throat; cervical glands swollen and very sensitive; temperature 102°. Vomiting continued for two weeks and no more bowel movement for fifteen days; extreme weakness and exhaustion. During the two weeks the temperature ranged near normal, pulse was slightly accelerated; stomach rejected everything; marked ptialism. Gradual improvement followed each attack until normal health was restored. With careful supervision of the diet, discontinuing the evening dinner and with precaution about eating while nervous or fatigued this child has made a good recovery with no more attacks.

**Case 5.** Girl aged eight, returned from school one evening nervous and tired, ate a hearty evening dinner including roast meats. Vomited toward morning, bowels moved once loosely and no more for two weeks; nausea and vomiting continuous; bold hives and slight sore throat; puffy face; slight fever, anorexia, great prostration, albuminuria and tube casts. Gradual improvement followed and after two weeks bowels moved and all other symptoms subsided.

**Case 6.** Boy three years old; delicate, very emotional ate ice cream after a hearty dinner and again about three hours later. Vomited before morning; had sore throat and slight rash. As in all of these cases, prompt eliminative treatment was vigorously begun and the patient improved, was able to be about the house but the cervical glands became very much enlarged and tender causing stiffness of the neck. His condition slowly improved for about ten days when he took cold by sleeping



in a draft. Symptoms of poisoning all returned with increased severity. Glandular involvement became general, fever rose slightly, restlessness returned, face began to swell, subconjunctival hemorrhage followed rapidly by ecchymosis and extensive infiltration of all subcutaneous tissues about the face and head and a spot on one foot. Death followed about thirty-six hours after taking cold. There was no pain or suffering in any of these cases beyond the inconvenience of vomiting and soreness resulting from it. Temperatures were always moderate. Heart action weakened and rapid. In the fatal cases a real blood poisoning seemed to exist i. e., the blood became disintegrated, as in case of snake poisoning, producing great depression and cutaneous manifestations.

From the study of these cases, of which the foregoing report is all together too abbreviated, I have formed the following conclusions:

1st. That ptomaines, which are the product of putrefactive action of saprophytic bacteria upon proteid substances, are formed under varied circumstances and reach the system in mild or deadly doses as the circumstances of the physiological condition of the individual may determine.

2d. That ptomaines are formed outside of the body or in the alimentary tract; or partly outside and partly within the system.

3d. That two persons may partake of the same food and one be fatally poisoned while the other remains unharmed.

4th. That the formation of ptomaines within the body depends upon a variety of conditions which governs the vigor and promptness of the digestive function. Putrefaction begins very promptly in all nitrogenous substances whenever a temperature is maintained at something near 100° F. unless some preservative agent be present. As in case 1, the ham used had been boiled whole, being very thick, the process of refrigeration was retarded by the summer heat so that a temperature favorable to the growth of putrefactive bacteria was thus maintained for a considerable period of time. In addition to this, the sandwiches after being made of this meat were kept at an elevated temperature nearly all day as the baskets could not be fully protected from the heat of the sun. Therefore, doubtless putrefaction changes began before the meat was eaten. Of the two children poisoned at this time, one only ate of the sandwiches at noon and was not seriously effected; being of a strong and vigorous constitution and sanguine temperament the putrefactive process was promptly checked by coming in contact with normal gastric juice in the stomach thus preventing the farther formation of ptomaines within the system. The other child, not only ate more freely of the meat, but being more delicate she was more effected by the fatigue of the days sports; her gastric digestion was, therefore, more tardy permitting farther putrefaction of the food in the alimentary tract until the deadly dose was generated. Others partook of the same food

and were unharmed. There is, no doubt, a great difference of susceptibility to poisons, in different individuals. But what constitutes that difference? Is it not due to the difference in the power of physiological resistance? Bacterial development usually begins from food; and it is possible that these two children may have gotten the principal part of the poison formed in all the meat. But I incline to the belief that the difference in results was due to the prompt or tardy action of the gastric digestion in the different individuals.

It has been demonstrated that no putrefaction can take place in the presence of normal gastric juice; that it will not only prevent putrefaction but will arrest it when already begun. But proteids decay very rapidly when mixed with pancreatic juice. So if for any reason the gastric function is interfered with the food passes into the intestines unchanged where putrefaction can freely take place and its products are readily absorbed by the lymphatics.

It is well known that nervous excitement, emotions or fatigue greatly influences the secretion of both saliva and gastric juice. Therefore, food ingested under such conditions, is not properly acted upon by these essential digestive agencies; with results as above referred to. This was manifest in cases 1, 4 and 5 of the above report.

By reducing gastric juice to a temperature much below 100° F. its action is suspended and such reduction in temperature of the stomach prevents farther secretion by the peptic and acid glands. Thus in case 6 chilling the stomach of the delicate child, with ice cream, after eating a hearty meal resulted disastrously. The lymphatics, taking up the poison, became involved and the contest with the physiological resistance of the system continued for some days, with a prospect of the poison being eliminated until the little fellow took cold which turned the tide against him.

So, I think, the position is tenable that whatever conditions favor the putrefaction of proteids; whether it be before they are ingested or after; whether it be from physical cause or lack of physiological function; the results are the same and the effect upon the system depends wholly upon the character and quantity of the ptomaines present and the facility with which they may be eliminated.

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# Chicago Medical Society.

*The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.*  
**Membership 1512,**

## OFFICERS:

J. B. MURPHY, 100 State Street..... President  
FRANK X. WALLS, 4307 Ellis Avenue..... Secretary  
A. E. HALSTEAD, 2937 Indiana Avenue..... Treasurer  
W. A. EVANS, 103 State Street..... Chairman Medicolegal Committee  
WM. HARSHA, 103 State Street..... Chairman Membership Committee

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DECEMBER, 1904.

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### MEETING OF OCTOBER 12, 1904.

At the regular meeting of the Chicago Medical Society held October 12, Dr. Thomas read a paper entitled **The Scientific Struggle to Cure Pulmonary Tuberculosis in the United States Since 1882.**—See page 544. Dr. J. W. Pettit, of Ottawa, presented a paper entitled **Some Practical Phases of the Tuberculosis Question.**—See page 601. These papers were discussed as follows:

**Dr. Robt. H. Babcock:** I have only words of commendation for these papers. Dr. Thomas' paper emphasized the great value of the "open air" treatment of pulmonary tuberculosis as compared with any and all other methods, and I trust that it will be a means of spreading the employment of this treatment among all who read it.

Dr. Pettit's paper emphasized the great value of sanatorium treatment, a form of treatment which needs to be spread among the laity as well as the profession. I should be sorry, however, if Dr. Pettit's paper led physicians not to make an endeavor to carry out modern sanatorium treatment, as far as possible, with their patients at home. There are difficulties in the way, as he says, but many times these difficulties can be overcome if the physician will only take the pains and spend the time necessary.

Dr. Mix's paper emphasizes the importance of infection as contrasted with hereditary predisposition. I agree with him on this point. I agree with him when he says that when we are exposed to infection we are all liable to tuberculosis, but if Dr. Mix means to say that under the same conditions we are all equally liable to tuberculosis, then, I cannot agree with him. I think there is such a thing as greater vulnerability to the action of the bacillus on the part of some more than others, and just so far I accept the doctrine of hereditary predisposition.

But in spreading the great truth that tuberculosis is spread by infection the paper undoubtedly will do great good.

**Dr. Frank Billings:** I concur in what the

previous speakers said, I am glad to have heard these papers. Dr. Mix's paper is one we must all believe in—the general statements, and Dr. Babcock has mentioned the only exception I would make. Certainly we are not all as equally susceptible to tuberculosis and to many other infections. In spite of the fact that the argument advanced by Dr. Mix and other writers on the same subject that the tissue of the body is not more vulnerable even if one's parents or progenitors suffered from tuberculosis, the statement is not to be wholly accepted.

We all believe that there is a susceptibility in inheritance in certain tissues that render us more susceptible to certain diseases in future life. There is no reason why we should not inherit a tissue that is more susceptible to some form of infection, tubercular included. We must know more about these things. Of what that process is in the body which in tuberculosis has a tendency to fibrosis and to healing before we can discuss this question fully of resistance or vulnerability to tuberculosis.

Dr. Mix cited several cases where, possibly without a proper analysis heredity could have been excluded. We all have cases in which investigation may show that infection played the only role. At the same time, we had cases where infection was impossible and where heredity must have been a factor, if not the only one.

I was brought up in the country on a farm, in a very sparsely settled district. My parents adopted a girl into our family whose mother died of tuberculosis, and whose father died of cholera. That girl grew up in our family among seven other children. We did not go to large gatherings. We knew our neighbors intimately because of their fewness rather than because of their nearness. We went to the district school, a building so well ventilated that we had to wear fit clothing to keep warm. And we lived in a farm house with every comfort that a farm house could give in those early days. That girl died of tuberculosis at the age of eighteen, and it was the only case of tuberculosis in that

county that I knew of in all the years of my boyhood. There was no other case with which that girl could have come in contact. She came into our family at the age of six.

And I know of many other similar cases where it is difficult to say that the individual came in contact with the disease in any way.

As to the treatment as enumerated by Dr. Thomas, we all agree with him that the evolution of the treatment of tuberculosis has resulted in the so-called hygienic treatment. At the same time the failure to appreciate all that drugs have done for us and also the possible cause of failure in many instances is the tendency among physicians to treat the disease and not the individual. One would not say dogmatically that there is nothing in creosote preparations, although that, perhaps, is true as they are used by most of us. We are not treating the individual. A diagnosis of tuberculosis is made, and without any consideration of the individuals digestive apparatus some form of creosote is given. So with all other drugs.

We examine a case and are fully impressed with the value of home treatment, and without any consideration of the individual's environment, we institute the home treatment. In another case, without any regard to the peculiarity of the patient, we tell him to go to a sanatorium; or without regard for his heart or blood vessels, we sent him to a height in Colorado. The thing that makes it difficult for the people to understand us as physicians is that we are always treating a disease. What we must do is to treat individuals. Certain individuals can take home treatment; some sanatorium treatment; some must go to California; some to Colorado. When we act rationally, we will have less failures and people will stand with us in our fight.

**Dr. Wm. A. Evans:** I propose to speak to just two points. The first of these is one suggested by one of the essayists. It is the necessity of early diagnosis in the treatment of tuberculosis. There is abundant evidence that tuberculosis at certain stages is an easily curable disease, and there is equally abundant evidence that tuberculosis in other stages is not a curable disease.

There are diagnostic means that are within our reach; that are known to the profession at large and are used by them. The one I wish to advocate particularly at this time is the use of tuberculin. I do not believe that there is any adequate proof that tuberculin is dangerous. The statements to the effect that tuberculin is dangerous are fragmentary and are usually based on very insufficient data. The question of the danger of tuberculosis is, perhaps, set finally at rest by articles in the current volume of the *Journal of Medical Research* where histologic and biologic studies of tubercle nodules in the eye have been made by Trudeau, Baldwin and Kingham.

I believe that this agent is open to some objection on the ground of reliability, but there is no question that it is more reliable in the earlier stages of tuberculosis than is any other diagnostic method or any combination of diagnostic methods. There is a certain percentage

of error, it is true, but there is a larger percentage of error in physical examination, in sputum examination, or in any method of examination.

The second point to which I wish to speak is this: It is said in fable that the wolf on one occasion was disposed to boast of the number of her brood, to which the lion replied, "I have but one, but that is a lion." Where there is a multiplicity of cures, there is no specific cure. We witnessed how the cures for malaria faded when quinine came into use, and how cures for diphtheria faded when antitoxin was discovered. Cure by fibrosis is not ideal.

I do not believe that we have gained anything particularly by the use of vegetable or mineral remedies or other medicinal agents in the cure of tuberculosis.

There is no reason in the clinical history of tuberculosis or in the pathology of the disease or in the biology of the bacillus to indicate any probability that an antitoxin for tuberculosis is a possibility. I believe that effort in this direction will certainly prove futile. I believe, however, that along the line of treatment with organic substances something may come. There may be a good deal in the combat between bacteria as a means of treating tuberculosis. It has been proposed to inoculate tubercular patients with *Bacillus Mycoides* but a recent report of Kinghorns, published in the August number of the *Journal of Medical Research* is to the effect that this bacterial combat is not of service. That, however, simply applies to *Bacillus Mycoides*.

I believe we should keep our minds open; our attitude fair toward remedies for tuberculosis. It is true that all striving so far has amounted to very little, but that does not by any means, argue that the result of further striving will not be a cure for Tuberculosis.

**Dr. J. M. Patton:** There are two points in Dr. Mix' paper to which I would like to direct your attention. One is that the individual is to be regarded as a stable factor in relation to infection. I do not believe that we can accept that statement in its full value. We have to take into consideration what is meant by heredity and predisposition: Predisposition is not heredity, although it may be hereditary. Heredity has nothing to do directly with predisposition.

By heredity we mean transmission in two ways: through the germ or through the placenta. It has been demonstrated that in the seminal fluid of tuberculosis patients, in certain instances, we can find the tubercle bacillus, and while transmission can occur in this way, it occurs but rarely.

Transmission through the ovum has not been demonstrated positively. On the other hand, transmission through placental influences has been demonstrated in over twenty instances.

By predisposition we mean that certain inherent modifications of the constitution of an individual may render him more liable to some illness. Under certain conditions it is easy to see why some of these modifications of the



normal physical structure may render people liable to tuberculosis. So that, I believe, it is right to speak of an hereditary tendency, although we cannot specify in just what that tendency resides; yet it should be kept distinct from heredity.

Another point was the necessity of assuming that a child that does not develop tuberculosis within a given time is simply an example of the efficiency of protection against infection, and in no way connected, directly or indirectly, with hereditary influences. If you protect a child from all possibility of infection, you destroy the only admitted means we have of producing the conditions in the child that would show that there is a predisposition. Certain children taken from their parents and protected against tuberculosis have not developed it as long as the protection was there. But after it is removed, they develop tuberculosis as soon as brought in contact with the outside world.

The point mentioned by Dr. Evans, with regard to the diagnosis of tuberculosis, I can not concur in; that is, the absence of danger in the use of tuberculin as a diagnostic agent. I do not intend to advance pathologic grounds for this objection, but when we use tuberculin very carefully as a diagnostic agent and see the immediate spreading of what apparently was an old focus of disease accompanied by rapid rise in temperature, etc., it makes us stop to think whether we are justified in subjecting a patient to such a procedure. In consideration of the fact that tuberculin is not absolutely sure as a diagnostic agent, and that in some cases we do run a risk of lighting up an old process, I question very much whether a man who is conscientious can submit a patient to such a risk.

**Dr. I. H. Hirschfeld:** For over 15 years I have treated all patients suffering from chronic diseases, with systematic out-of-door life and graduated exercises, and I wish to report my experience with the patients suffering from tuberculosis of the respiratory tract, as it may be of interest, the results having been obtained in Sanitariums located in Milwaukee and near Chicago. Our satisfactory results were over 80 per cent. Temperature became normal or sub-normal, cough disappeared or at least decreased, tubercular bacilli disappeared or decreased in number, and the patient gained in weight. This decided improvement was generally attained inside of three months.

Some of these patients have since died, others underwent a similar course of treatment, but the majority remained free from symptoms. Permanent cures would have been more numerous if patients had kept up the regime longer. Some could not do so because they had to go back to work, and others because their physicians did not appreciate the principle for chronic disease, chronic treatment, and simply vacillated from one advice and one prescription to another handling the patient like an acute case where perfect recovery could have followed inside of a few weeks. In other cases, the disease would have

been curable, had the patient not relapsed into his former careless habits.

Our treatment consists of:

Out-of-door rest with breathing exercises, and chest development, and later on, graduated general exercise. The breathing exercises were regulated in frequency according to the case, and suspended if there was any hemorrhage. (Except if especially requested by the physician) the patient slept in doors at night with windows open.

2. Mixed diet with plenty of food that is apt to increase the weight and regulate the bowels.

3. The patient received an average of thirty grams of benzosal per week. Each patient gets one ounce to be used first inside of twelve days, then inside of ten days, and beginning from the third period of seven days.

I never saw any undesirable symptoms from this large doses of benzosal, and am under the impression that the antiseptic condition of the intestines has a decided influence on the general qualitative nutrition and increases the resisting power against new infection.

4. I had all the facilities for using hydrotherapy, but never used it except when the temperature was over 103°.

I found that the out-of-door life with the less septic condition of the bowels was sufficient to protect the patient against the influence of the change of weather and to bring the fever down to normal or sub-normal, if that was possible by any means.

I wish to add a few words about the prevention of tuberculosis. We all agree that tuberculosis can be symptomatically cured in spite that we begin the treatment when the patients' sputum is full of bacilli, and we know that the tubercle bacilli do not produce any antibodies that would destroy their own virulence. That means that we cure the patient by increasing the resisting power and by changing the quality of the cell so that it does not offer the same soil for existence and growth of the tubercle bacillus. It is difficult at least in the densely populated districts to destroy the sputum, and we can solve the problem of preventing tuberculosis to a great degree by teaching personal hygiene in schools. Tubercle bacilli attack in preference the poorly ventilated parts of the lung, and by practicing breathing and teaching chest development in schools, during a few minutes intermission between the lessons, we eliminate the poorly ventilated parts, and so decrease the danger of infection.

Another increased opportunity for tubercular infection is a subacute inflammation of the respiratory tract. These can be decreased in number by hardening the individual against these conditions, a thing to be done easily by cool or cold sponge baths and hygiene of mouth and pharynx.

I have had the opportunity to see thousands of patients who, under general unhygienic conditions, used hydrotherapy, and I never saw a case of pneumonia, as long as they used cold water treatment, and as mentioned, it is not necessary to have any com-



plicated apparatus,—a sponge bath in the morning is excellent prevention against catarrhal and inflammatory conditions of the respiratory tract, if at the same time breathing exercises are done, and the intestinal tract is kept clean.

I favor the destruction of tubercle bacilli by all possible means, and people with weakened organism or hereditary predisposition for tuberculosis should avoid contact with tubercular individuals. For otherwise healthy people, their own personal hygiene is more effective and human, as to banish every person with a suspicious cough as dangerous for the general welfare.

**Dr. Richard M. Fletcher, Jr.:** I have enjoyed listening to the very excellent and instructive papers and the discussion that has followed. There is one phase of this subject that I wish to discuss briefly, and I think it is in line with all that has been said by Dr. Thomas and the other gentlemen relative to the benefits to be derived from the open air and outdoor life in the treatment of tuberculosis, as well as being germane to that phase of subject so ably discussed by Dr. Mix.

Many of the cases of tuberculosis that have been attributed to an hereditary predisposition should properly have been attributed to an hereditary prejudice and superstition. Those of us who have visited the island of Cuba or who have studied the situation on the island are in a position to fully appreciate what can be accomplished by the proper application and strict enforcement of the laws of modern hygiene and sanitary science.

The Cuban has inherited a violent prejudice against night air. This prejudice among the poorer class, and it is this class that I shall speak of, amounts to a superstition. While the native of Cuba and other tropical countries will go about without any covering for the head in the hottest part of the day, he crawls into his hole after sunset. You are familiar with the dwellings of the poorer class in all countries. In Cuba this dwelling is one, or at best two rooms, with usually one entrance. After night-fall the families gather in this fouled nest and close every crack and crevice to keep out the evil night air. Is it any wonder that they contract tuberculosis and leprosy? Dr. Finlay, the distinguished Chief of the Sanitary Department of the Island, told me last Spring that the condition with regard to tuberculosis in Havana and most of the towns was entirely satisfactory, but the same could not be said for the outlying districts. The same condition of overcrowding and want of hygienic and sanitary surrounding is true of the Southern Negro. We know what havoc has been wrought in the Negro race by tuberculosis, I claim that this is not an inherited predisposition to the disease but rather an inherited prejudice against all the laws of hygiene and right living. In my opinion ignorance, gross, dense ignorance, prejudice and superstition in any community or in any race of people is vastly a more important etiologic factor in tuberculosis than any hereditary tendency or predisposition.

#### MEETING OF OCTOBER 19, 1904.

A regular meeting of the Chicago Medical Society was held Wednesday, October 19, at the Public Library. Dr. Evans presented a pathological specimen of **Hanot's Cirrhosis**.

**Dr. William A. Evans:** Those who arrange the programs are anxious that fresh pathological specimens shall be brought here for demonstration. I have brought down tonight a specimen which, though not of very great interest, is fresh.

A man was admitted to the Cook County Hospital about four days before his death, giving a history of having been sick for two months during which time he had been repeatedly jaundiced. There was some ascites, and an accumulation of fluid in the lower extremities. During the four days he remained in the hospital he ran a temperature generally one degree above normal; his pulse rate ranged from 96 to 120. He had a varying degree of jaundice. At times he was deeply jaundiced, and at other times very much less so. There were some petechiae. He was delirious. There was bile in the urine. Otherwise the urine was negative. There were no other symptoms than those I have detailed except that the heart area was somewhat enlarged, and that during the last day or two of life there was a systolic murmur to be heard at the apex.

Post-mortem examination showed Hanot's cirrhosis of the liver sometimes called hypertrophic cirrhosis. This was responsible for certain changes in the kidney, spleen, heart muscle, and in the pancreas. In looking at the specimen you will find the appearance of the liver varies in different portions. It is not a typical hypertrophic cirrhosis in all of its areas. The liver weighed two thousand grams. The cirrhosis in the left lobe is quite well marked. The increase in interstitial tissue showed very plainly in the specimen some hours after its removal. Notice the lobus Spigelii. You will find the changes there are altogether degenerative in type. There is very little increase in interstitial tissue, but there is a marked breaking-down of the liver cells. There was no obstruction; no gall-stones to be found in any of the ducts or in the gall-bladder.

The disposition of the times is to ascribe all forms of cirrhosis, especially Hanot's cirrhosis and the hypertrophic forms of the disease, to toxic influences resulting largely from bacteria. All recent literature is directed along the line of that explanation rather than alcoholic. I place the specimen on the tray in such a way that you can see the difference between the pathology in the right and left lobes and in the lobus Spigelii.

Dr. Wells then presented a paper on **Diabetes**.

**Edward F. Wells, M. D.,** Chicago: Diabetes is a disease characterized by hyperglycemia and glycosuria, probably due to hypoglycolysis, from insufficiency of the pancreatic internal secretion. Although not a common disorder, it is an important one, and is increasing in prevalence. It increases in frequency, but declines in severity with age. A clear conception of the origin of glucose as found in the

body, together with its various changes and end products, and its excretion, in health and in diabetes is essential to an understanding of alimentary, nervous, renal, supra-renal and, especially, diabetic glycosuria. That diabetes is due to pancreatic disease is rendered probable by the fact that such disease is frequently accompanied by glycosuria; that lesions of the pancreas are found, post-mortem, in a large proportion of diabetics; that extirpation of the pancreas is regularly followed by diabetes. The most significant lesion in diabetes is pancreatic interacinar inflammation and hyaline degeneration.

The symptoms vary with the type of the disease; those which first attract attention are nocturnal dryness of the mouth and throat, increased frequency of urination and excessive thirst. The other well-known symptoms follow. Coma, probably due to oxybutyric acidemia, is often the cause of death in severe cases. Glucose in excess, and the presence of morbid acids, combined with bases, are the most important changes in the blood. These are excreted with the urine, and are specific features. Sugar may be detected in the urine by Haines', the phenyl-hydrazin and other tests, and may be measured by Purdy's or the fermentation tests. Acetone, diacetic acid and oxybutyric acid may be detected by Legal's, Gerhardt's and the polariscope tests, respectively. Diabetes is, broadly speaking, an incurable disease. The severe cases, especially in the young, die in a few months or years; the mild cases, in middle-aged or older persons, which form the vast majority of all cases, live moderately long lives and die of other affections; all die with, comparatively few die from diabetes.

Treatment does not cure the diabetic, yet his proper management is, upon the whole, satisfactory. The treatment is almost exclusively dietetic, and knowledge and appreciation of the fundamental factors of nutrition and waste are essential to its application. Management should begin with the "therapeutic diagnosis," which measures the patient's capacity for carbo-hydrate assimilation. The patient is at once, or gradually, if diacetic acid is present, placed upon a strict anti-diabetic diet, with daily examinations of the 24 hours' urine, until sugar disappears or reaches the lowest point to which it can be brought. Carbo-hydrates, in the form of bread, are now gradually added to the diet until sugar reappears or increases in the urine. From this a moderate proportion of carbohydrate should be deducted, and this will constitute the appropriate diet for the particular case. The therapeutic diagnosis, with readjustment of the diet, should be undertaken two or three times a year. Codeine will only be required in those rare severe cases in which it is clearly demonstrated that it is beneficial. From first to last attention should be given to details, in which the patient should be interested. Well constructed diet lists are useful as a basis for modification to meet individual requirements. As a rule the patient may be allowed to choose

from a prescribed list those foods which he fancies, but the attendant should satisfy himself that, with such choice, the diet is properly balanced and that the caloric requirements of the body are more than met. The severe cases will require the most stringent diet, plus an amount of carbo-hydrates, to be carefully estimated in each case, as will reduce the abstraction of glucose from the body tissues to a minimum. Finally, with persistent tact and painstaking attention to details the patient's interest can be maintained throughout, and this is essential to success.

#### Discussion.

**Dr. Arthur R. Elliott:** Mr. President and Members of the Society. The class of metabolic diseases, or, as they have sometimes been designated, diseases of obscure origin, is being steadily depleted, and if we are to trust the trend of recent pathological research, the class is about to lose another of its members, namely, diabetes mellitus. As the matter now stands, definite lesions of the pancreas have been found in fifty per cent of cases of diabetes which have come to autopsy, and signs are not lacking that possibly in the near future definite lesions of the pancreas will be connected with a still larger percentage of cases than the fifty per cent which Opie now gives in his work on "Diseases of the Pancreas." Even alimentary glycosuria, about which there has been little contention, is being connected with pancreatic causes by such observations as those of Wille. Under the direction of this observer eight hundred individuals suffering from a great variety of diseases were subjected to the test for alimentary glycosuria. Of the eight hundred, seventy-seven subsequently died and came to autopsy. Fifteen of the cases "posted" had shown a positive reaction to the alimentary test and ten of these were found to have lesions of the pancreas varying in severity from chronic pancreatitis to carcinoma of the gland. Such observations indicate that lowered starch assimilation is something more than a functional disturbance. There is no anatomical reason why we should regard the pancreas with its double connection with the duodenum, as more exempt from bacterial invasion from the bowel, than, for instance, the biliary tract, and, it seems to me, that in the future we may have many of the obscure cases of permanent glycosuria, which have until this time been explained on broad metabolic grounds connected with incipient lesions of the pancreas, the result of chronic infective processes. In this connection the occasional clinical experience of having acute diabetes develop after typhoid fever is suggestive, indicating that the bacillus typhosus has invaded the pancreatic tract and set up more or less active organic changes. The researches of Oser in this connection are interesting. He was able to isolate the bacillus coli communis from the parenchymous juice of cases of chronic pancreatitis. The further we probe this question of relationship between pancreatic disease and diabetes, the more convincing becomes the conclusion that some insufficiency of the pancreatic internal secretion, either in quality or quantity, is the essential cause of diabetes.



Dr. Wells has said that "once a diabetic, always a diabetic," and anyone, who has had much experience in the management of diabetes, can have no different conclusion to record. I have never seen a diabetic who was cured of his glycosuria. This obstinacy, in the face of good endeavor, is certainly the index of an organic background for the disease, and I firmly believe the day will come when we will regard every permanent glycosuria as the outward expression of an organic state, probably of the pancreas, just as we now regard albuminuria no longer as a physiological process, but invariably an expression of some organic change in the kidney. The pathological change may be obscure and hard to demonstrate, but is still present.

I wish to refer to the association of emaciation with the severe type of the disease, so called pancreatic diabetes. Since the days of Lancereaux, who divided diabetes into two classes, lean and fat diabetes, emaciation has been regarded as the classic indication of pancreatic diabetes. Some observers, notably Lepine, Williamson, Hansemann, have recorded instances of undoubted pancreatic diabetes in which there was no emaciation, but the exceptions to the rule are so rare that I feel encouraged to report two cases of this character which have come under my observation in the last year and I shall do so briefly.

The first was a schoolgirl, 21 years of age, who consulted me in April, 1903. In November, 1901, sugar was first discovered in the urine; intense thirst, polyuria, polyphagia and menstrual irregularity being the symptoms at that time. Patient's normal weight is 142, and during the first eighteen months which elapsed after the discovery of the glycosuria she gained eight pounds, attaining a maximum of 150 pounds, in spite of a strict dietary. At the time of consultation with myself, body weight was 148. Patient is of firm musculature; possesses a high color, and well-rounded body curves. In short, looks the picture of health. Symptoms complained of are polyuria; excessive thirst, and appetite; fatigue on exertion; dryness of skin and mucous membranes; numerous small furuncles and troublesome pruritus vulvae. Urine: 82 ounces; sp. gr., 1036; 3% sugar; diacetic acid and acetone present. Patient remained under more or less continuous observation until a few days before her death from diabetic coma in December, 1903. During the intervening eighteen months the glycosuria had fluctuated between  $1\frac{1}{2}$  and 3 per cent; acetone and diacetic acid were constant urinary ingredients; betaoxybutyric acid being first positively demonstrated in May, 1903. At no time did the body weight suffer, and at time of death stood at 142. No autopsy was procurable.

Case 2 referred to me by a Chicago confrere, was at time of consultation passing 135 ounces of urine, containing 6 per cent of sugar; traces of acetone, but no diacetic acid. Age, 31. Her normal maximum weight is 160 pounds; weight at time of consultation was reduced to 141. Regulation of the diet caused a rapid elevation of the body weight to 155 pounds. Patient has been under continuous observation for six

months. Sugar elimination ranges between one and two per cent on a limited starch diet (100 grams per diem). For past two months acetonaemia has been pronounced, and diaceturia pretty constant. Coma prodromes have once or twice developed. Despite the serious nature of the case and the probability of an early termination, the patient's weight has risen to 158, and she has the appearance of being in excellent health.

There is one more clinical point I would like to refer to in connection with diabetes, namely, the significance of albuminuria in the terminal stage of coma. Albuminuria, as is well known, is a frequent development in the chronic or so-called constitutional type of diabetes, where there is no acidosis. Albuminuria is present in over forty per cent of such cases, and results from organic changes in the kidney, produced by prolonged irritation of the kidney from sugar in the urine. In the acute type of the disease, with acidosis, we do not ordinarily encounter albuminuria until late in the disease, and when it appears it usually is a close precedent of coma. It is associated with casts in the urine, the so-called coma-casts, and a plain trace is usually all that can be demonstrated. A rather striking series of cases in my own experience impressed upon me the importance of this albuminuria which is the result of certain necrotic changes in the tubular epithelium, called the cellular necrosis of Epstein. It means a choked condition of the kidney, and is attended by a certain amount of renal inadequacy which, in the face of acidosis, causes a piling up of the toxins in the blood and precipitates coma. Except in that indirect way, the nephritis has no connection with the coma, unless it prove to be the last straw which breaks the camel's back. The advent of acidosis, or the presence in the urine of acetone, diacetic acid and betaoxybutyric acid, is an imperative indication for change in diet, and I do not think that a practitioner would be rash enough to continue a strict diet in the face of these indications. I believe there should be manifested a much greater liberalism toward diabetic patients than formerly prevailed. When I compare my present treatment of these cases with what it was ten years ago, I am surprised at the better results I get now, and the greater degree of content with which patients follow the treatment. Every diabetic can be given a small amount of starch, and it is only common clinical wisdom to let every case of diabetes have as much starch as can be assimilated.

**Dr. J. B. Herrick:** I wish to speak briefly of two or three points, elementary and primary perhaps, but none the less deserving of emphasis. First, regarding the specific gravity of the urine. We are taught that a saccharine urine is a urine of high specific gravity. So true is this that many insurance companies direct their examiners to test for sugar only when the specific gravity is over 1015 or 1020. We should not fall into this error, but should remember that many a urine from a true diabetic may for days and weeks at a time have a specific gravity of no more than 1018 or 1020. Then, there are conditions in which the urine



may have a much lower specific gravity than this and still be a saccharine urine. Von Noorden calls attention to the fact that in the period preceding glycosuria there is frequently a polyuria without sugar, and also following the period of glycosuria, when the sugar is disappearing from the urine there may still be an increase in quantity, but of low specific gravity. If we happen to catch a patient just as the glycosuria is coming on in this period of preglycosuric polyuria, or just as the glycosuria is disappearing, we may find a urine of low specific gravity which contains sugar. Again, the drinking of large amounts of water, such as patients with diabetes will drink on account of thirst, or large quantities of some particular mineral water, will lower the specific gravity, so that the patient may pass urine containing considerable sugar and still have a specific gravity of 1018 or 1020. More than that, the development of a chronic interstitial nephritis, which, as Dr. Elliott says, is a frequent condition that is met with in cases of diabetes, will lower the specific gravity of the urine, and if a patient comes to us with cardiovascular changes in this condition, with albumin and casts in the urine, the urine being of low specific gravity, we may carelessly forget to examine for sugar, so that we should make it a routine practice in patients, even when we find a urine of low specific gravity, to test for sugar.

All text-books or articles upon diabetes and urinalyses tell us that in making the copper test for sugar we should see to it that we do not use an excess of urine, and the reason is plain. A large amount of urine will contain enough creatinin perhaps or uric acid to give a reaction with the color and precipitation, leading us to think that we are dealing with sugar. This is too often forgotten, and it was forcibly impressed upon me within the last six weeks in the case of a medical student who had sugar in his urine. He went home, dieted, and examined his urine daily, and reported to me a "trace of sugar, about one-tenth per cent.," etc. When he returned I found that he was using the copper solution. If he got no reaction with ten drops, he would put in twenty, and if that did not give a reaction, he would put in thirty, or forty, etc. The excess of urine, with continuous boiling, is frequently a source of error.

Another point that is perhaps of interest is that at present formalin is often used as a preservative of the urine. If it is present in large amounts, it will give a reaction very similar to that of sugar. That chloral will do this is well known. Where urine is tested for sugar, formalin should be used in small amounts.

Dr. Wells referred to one fact of great importance, and yet perhaps there was a little contradiction in his statement, if I understood him correctly, when he said that in diabetes sugar was always present; that it was a constant finding in the urine when the patient was on an ordinary mixed diet. But later he said that the sugar at times was absent from the

urine of patients even when they were upon a fairly mixed diet. There is, it seems to me, a certain type of diabetes that has a peculiar periodicity about it. I believe we occasionally see sugar disappear from the urine spontaneously, even though the patient is rather careless as regards diet. The importance of recognizing this fact is seen when a patient comes to us and states that he has diabetes; that he has been treated for it, and when we come to examine the urine we find it sugar-free. It is easy for us to say that the other practitioner is mistaken; that there is no sugar, and tell the patient that he has no diabetes. There is an unexplained periodicity about glycosuria as a part of true diabetes just as in certain cases of nephritis we have, at times, say for days at a time, albumin absent from the urine.

Just one other point, and this is more on the theoretical order, namely, the investigation that has been made by Cohnheim. It has been known for a long time that the muscles were one of the storehouses of glycogen. It has been assumed, and perhaps proven, that the muscles have a great deal to do in the utilization of sugar, in the production of energy and heat in the body; but in the test-tube, the mixing of sugar and of muscle had not up to the time of Cohnheim resulted in any glycolytic action. The same was true of the pancreas. The clinical observations of Lanceriaux, referred to by Dr. Elliott, of Minkowski, of Opie and others, leave little doubt that the pancreas is intimately concerned in the causation of diabetes, and in some way has to do with normal glycolysis. It occurred to Cohnheim that there was some intimate relation between the muscles and pancreas, and so he conceived the idea of mixing pancreas and muscle with sugar and observing the action. He froze muscle, chopped it up finely like shavings or sawdust, and under high pressure extracted the juice of the muscle; he did the same with the pancreas; and then mixing the juices from the pancreas, and from the muscles and adding sugar, found that there was glycolysis, that there was a rapid disappearance of the sugar in the mixture of pancreatic and muscle juice. He believes that the pancreas contains in its internal secretion a ferment, perhaps pro-ferment; that the muscle contains another ferment or proferment, and the two together make a glycolytic ferment that is necessary for proper sugar metabolism. Let the pancreatic ferment be lacking, glycolytic metabolism interfered with, and hyperglycemia and glycosuria result. He compares this interaction of the glycolytic ferments with the action of the ferment in the external pancreatic secretion and recalls the observations of Pawlow that this ferment or pro-ferment in the pancreatic secretion is inert until it has been activated by the ferment in the enteric juice, the enterokinase of Pawlow. He compares it also to the observations made by Ehrlich, that where we are to meet with a bacteriolytic or hemolytic or cytolytic action, we have to have not one factor, but two. We cannot get hemolysis or bacteriolysis from the in-

termediary body alone, but must have the complement as well—one activates the other. This is interesting theoretically, inasmuch as it may lead to practical results, and I hope Dr. Croftan, when he speaks, will refer to this topic because he has done some work along the same line as Cohnheim.

**Dr. Frank Billings:** I will not take up the time of the Society in an attempt to discuss the causes which have been so aptly brought out by Dr. Wells, but will speak of one point which Dr. Wells may have in his paper, but did not mention, and that is, in the causation of pancreatic disease so well described by Opie, in relation to infection of the gall tracts, and particularly of cholelithiasis, and consequently of diabetes, is an interesting one. We should take advantage of this knowledge, when a patient comes to us with diabetes, in an attempt to find if in his history he has suffered with anything like gall-stones. I find, since Opie's announcement, not infrequently a history in patients of disease of the gall tracts, and this will be of more interest in the future than it is now, because with more certain knowledge in a certain number of cases who still carry their gall-stones, either we medical men must secure some drug which will so disinfect the gall tracts that the evil influence of the infection of the gall tracts will no longer be felt by the pancreas, or we must call upon the surgeons to help us out in the treatment of diabetes. I believe there is a place for the surgeon in the treatment of diabetes, and especially of that form of it in which we can find the history of the patient, or from physical evidence on examination, that there is either the presence of gallstones in the gall tracts or an infection of the gall tracts which can be removed by drainage.

With reference to the continuation of diabetes, I fully agree with Dr. Wells and Dr. Elliott, that once a diabetic, always a diabetic; but that does not necessarily mean that we should give a prognosis to our patients of early death, for I think it is true of diabetes of a chronic nature, especially the so-called fat diabetes, that a patient, once acquainted with his condition and following a hygiene laid out by the physician, will possibly live longer than his neighbor who has no diabetes. He is subject, of course, to accidents, and perhaps acute infection occurring in him may be more dangerous than to the other individual; but my personal experience with such cases is that life may be prolonged to the allotted span in many individuals, provided one can govern them.

In relation to the treatment, I want to say a few words. I fully coincide with what Dr. Wells has said concerning diet. Two years ago, I think, von Noorden brought out a therapeutic test-meal, a combination of food stuffs, which I have used a good deal, and the men who are associated with me have used a good deal. It consists of a combination of starches, chiefly in the form of oatmeal; of fats in the form of butter, and albumen in the form of egg albumen. For an individual weighing 150

pounds, von Noorden advised the use of 250 grams of oatmeal (about eight ounces), to be mixed with 300 grams of butter (about ten ounces), and 100 grams of egg albumen; the oatmeal to be steamed or boiled, and while hot, to have butter intimately mixed with it, and finally the whites of a sufficient number of eggs to measure about 100 grams, or three ounces, to be added. One may think this would be unpalatable to the patient and perhaps indigestible; but the contrary is true. So far, I have used it in hospital and private practice on seven patients, and if I remember correctly, von Noorden states in his original report that he had used it on seven patients. All have taken it with pleasure. There have been no complaints from any of the patients that it was disagreeable to the palate. As a therapeutic agent or guide, it is far better than anything which I have ever found in any diet list. In all but two of the seven patients immediate improvement occurred in five; in two there was no improvement. In two apparently the condition as to acidosis, presence of diacetic acid and acetone in the urine, was increased rather than decreased. In five of the patients not only was acidosis decreased, when present, but sugar either diminished or became immediately almost absent. One of the first patients was a young man from the West who suffered from diabetes for a considerable time (it is difficult to say just how long), who passed three thousand C.c. of urine in twenty-four hours, with 2 per cent. sugar. Within thirty-six hours from the time he began the meal the urine was without a trace of sugar, and while in another twenty-four hours there was a little reaction and the reappearance in the urine of a trace of sugar, still while under observation in the hospital for some ten days the urine was practically sugar-free.

We all know how severe acute diabetes is in the young. Most of the cases are practically fatal, so that we dread diabetes in children. This last summer one of the patients, a child, whose father is a chemist, and was under the intelligent care of physicians for a long time. The father came to me, understanding that diabetes was dangerous and fatal in children, and I explained to him this therapeutic test, and the fact that I had not only used the diet as a therapeutic test, but that I had kept patients on it longer than von Noorden had advised, with benefit. The child was put on that diet very early in June. Until September the sugar had entirely disappeared from the urine; the child gained nine pounds in weight. After two months of this diet she began to complain. She wanted something else to eat. The mother allowed her bread in the place of oatmeal, with egg and light diet, and immediately the sugar began to reappear in the urine. The child was again put back on the von Noorden diet, shortly after which the sugar disappeared. Not only have I used it since von Noorden's announcement as a therapeutic test, to decide upon the sugar-destroying power of the individual organism, and gradually come back to a more mixed diet, but I have used it as a steady diet for a month



or longer in individuals, with not only disappearance practically of the sugar, but improvement in the nutrition of the patient. We divide this diet usually into several portions, so that the individual, instead of getting three meals a day, will eat six times a day. I wish to say in addition to what I have already said, that on this diet I have found that acidosis not only disappears, but it does not develop in the patients, thereby removing that great danger in diabetes. When a patient is tired of this diet, he is put upon an ordinary anti-diabetic diet. It may be best to return to the von Noorden diet for a week every month.

It is not the experience of the best clinicians to-day to treat a patient by diet or medication with the idea of solely ridding the urine of sugar; but the good physician measures his patient's weight quite as often as he measures the urine, and if he finds upon a rather strict diet that his patient is losing in weight, he would rather add to the diet something which will enable him to increase in weight rather than continue a diet which means less sugar, but less weight on the part of the individual, for invariably in my own experience, as the individual decrease in weight there is coincidently with it, possibly related to it in some way, an acidosis,—an increase in the diacetic acid, and acetone, consequently the patient passes on toward the danger zone of coma.

**Dr. Alfred C. Croftan:** It is gratifying to see what a radical change has occurred within the last few years, in regard to the administration of starches and sugars in diabetes. Instead of continuing the routine habit of handing diabetics a diet list containing no carbohydrates, practitioners are beginning to exercise better judgment and are learning to individualize. Two great dangers, chronic under-nutrition and the development of acidosis, are always to be dreaded in this disease; and the physician who prescribes a more liberal diet for diabetics and occasionally uses carbohydrates as a distinct therapeutic measure does much to ward off these dangers.

There is one point that has not been brought out with sufficient clearness, although it has been hinted at this evening, and that is the peculiar effect that the administration of carbohydrates has upon the acetone excretion. It may be considered established that very many cases with acetonuria, will stop excreting acetone and its precursors and congeners if a certain amount of carbohydrate is given. This applies to all cases of non-diabetic acetonuria and to most diabetic acetonurias. In every severe case of acidosis, particularly in a patient who has existed for a long time upon a carbohydrate-free diet, it is often good practice, even in impending coma, to give some sugar or other carbohydrate. I go further than that for in extreme cases of coma in which I have to resort to the hypodermic or intravenous injection of sodium bicarbonate and other alkalies, I have as a last resource injected directly into the veins, together with carbonate of sodium solution, some sugar, preferably levulose, and I believe that in some of these cases the recovery from the coma

could be attributed to the administration of carbohydrate in this way.

I am glad that Dr. Billings has mentioned von Noorden's so called "oatmeal-cure." The statistics from abroad are as favorable as those quoted. In my experience I have had several very good results from it, one indifferent result, and one bad result: and I believe that the unfavorable result in my one case can be attributed to the administration of the oatmeal. I do not know whether Dr. Billings ever has had the same experience or not, namely, that after stopping the oatmeal a terrific acetonuria appeared with rapidly developing acidosis and death in coma. I mean by terrific really enormous amounts of acetone in the urine, larger than those I had ever seen in any other form of diabetes or any disease that is accompanied by acetonuria. This is the one thing to be afraid of. I believe that not only oatmeal, but any other of the ordinary starchy foods, such as potatoes, or rice, or bread, can be advantageously utilized in this sense, provided proper care is taken to give that particular carbohydrate alone. I warn my patients to take either oatmeal alone, or potatoes alone, or rice alone, and not to take rice and oatmeal together, or oatmeal and potatoes together. You will find the same effect in most cases from the single administration of any one carbohydrate. I think this treatment is useful only in severe adult forms, and in juvenile types of diabetes. The theoretical explanation of this phenomenon is still forthcoming.

Dr. Herrick spoke of some of the uncertainties of the Fehling test, particularly of the reducing action of certain urinary bodies other than dextrose. This difficulty, which is real, can usually be obviated by boiling the urine and the Fehling solution in separate tubes and then allowing the two liquids to cool off a little below the boiling point. When the two liquids are poured together a reduction occurring at once all through the mixture indicates only sugar, because the other important bodies only reduce Fehling's solution at boiling temperature.

One thing I have been confronted with is what may be called a delayed or incomplete Fehling's test; we do not get a precipitate, but merely a browning of the fluid, with phosphates falling down at the same time, cupric reduction due to sugar is simulated. So far as I have been able to determine, in the great majority of cases, this is due to the presence in the urine of a group of bodies known as glycuronic acid compounds, and these are in general derived from gastro-intestinal putrefaction. They have practically the same significance that indican has for both indican and the glycuronates are compounds of .....and its congeners; the administration of a brisk purge and the use of intestinal antiseptics, frequently causes a disappearance simultaneously of the glycuronates and of indican. Whenever this peculiar reaction appears, therefore, the bowel should first be cleansed out and the test repeated before the presence of sugar is assumed



and the diagnosis glycosuria made. Other tests for sugar will of course decide the matter.

One thing is pleasant to contemplate, namely, that the prognosis of diabetes is no longer considered so bad and that fewer diabetics are scared and starved to death. We should, above all, not be so anxious as we have been to stop every bit of sugar. Let the diabetic pass a little sugar occasionally. For my part I prefer to have my patient live thirty years with a little sugar than to have him live one year without any sugar in the urine.

Dr. Alice Hamilton read a paper entitled **The Invisible Droplets of Sputum Expelled in Coughing**. Dr. Hamilton finds that there is a well marked danger from this source and called attention to the possibility of infection being transmitted to patients through the unprotected mouths of the surgeons or nurses present at operations or engaged in preparing dressings. It was discussed by:

**Dr. Josephine C. Young:** In Landau's clinic in Berlin the practice of wearing veils by the operating surgeon, assistant and nurse who handles the instruments has been in effect for about a year. No one is allowed to go near a patient who does not have a veil over the nose and mouth.

**Dr. A. L. Dardiger:** The paper read by Dr. Hamilton is intensely interesting from a scientific standpoint. It is a splendid lesson also for the laity, for it is very difficult for physicians in this twentieth century to teach even intelligent and educated people to be cautious.

Some two years ago, while taking charge of the bacteriological laboratory at the P. and S. college, it occurred to me to make some experiments similar in many respects to those that have been enumerated to-night, and almost out of pastime I went to work to satisfy myself whether or not we have these streptococci and staphylococci present in more or less numbers on the tonsils. I asked some of my students to breathe on slides, and sure enough, out of forty-odd students experimented with, I found that in thirty the streptococcus was present.

#### MEETING OF OCTOBER 26, 1904.

A regular meeting of the Chicago Medical Society was held October 26th, at which the following program was presented.

#### Atrophic Cirrhosis of the Liver, With Tuberculosis of the Peritoneum and Testicle.

**Dr. A. M. Stober:** The specimens for presentation this evening were removed at autopsy this morning at the Cook County Hospital by Dr. Evans. The case was a male, age 32, switchman by occupation. He gave a history of having been struck in the left testicle by a switch six months ago, and subsequently had trouble with that viscus. About six weeks ago he first noticed a swelling in the abdomen, and four weeks ago became short of breath, and it was with this rather vague history that the patient entered the hospital. At the time of admission to the hospital the left testicle was swollen, cystic and tender, and upon aspiration about one ounce of a semi-caseous material was

removed. Physical examination revealed the presence of considerable fluid in the peritoneal cavity, and smaller quantities of fluid in both pleural cavities. The temperature averaged about 100°, and he complained of nothing except a slight pain on the right side. A diagnosis of atrophic cirrhosis of the liver was ventured to explain the ascites, and tuberculosis of the various serous cavities was also diagnosed from the presence of fluid in these cavities and the association of a tubercular abscess in the testicle. There were no evidences of portal congestion except the ascites. About six days ago the case took on an appearance which pointed toward acute infection of the peritoneal cavity. The abdomen became more distended, tympanitic, and somewhat tender on pressure. There was slight rigidity, rise of temperature, and subsequently vomiting. Patient died yesterday, and at the autopsy today there was revealed an acute sero-fibrinous peritonitis, and beneath the fibrin and at other places could be seen numerous miliary tubercles. The pleural cavities and pericardial cavity revealed an excess of bloody fluid. The surfaces had lost their luster, but no definite fibrin formation was present, so that while tuberculosis of these cavities might be suspected, there is nothing definite pointing toward the same. The left epididymis was very much enlarged, and on section showed the presence of a number of caseous areas, some of which were several centimeters in diameter.

The abdominal viscera of this case is presented to the society in response to a request for fresh pathological material, and while the specimen removed is too heavy to pass around, it will be exhibited at the table, with several microscopic preparations.

The liver presented mild cirrhosis, which was in accord with the history of the man who had taken twenty drinks of whiskey a day for some years; and cirrhosis is evident from the nodular surface and the presence of connective tissue in the cut section. The liver was not very firm, and frozen sections show the presence of a large amount of connective tissue, but nearly all of this is of recent formation, that is, it has not developed to the contracting stage.

A section of the omentum has also been prepared, and while the tubercles are not plain, it is quite evidently a tuberculosis inflammation.

Another section of the tubercle stained with carbolfuchsin shows the presence of tubercle bacilli at the edge of the caseating area.

#### A Profound Case of Diabetes Insipidus.

**John A. Robison, M. D., Chicago:** Diabetes insipidus is the term which writers have used to describe a condition of the system in which there is an excessive amount of urine voided, of low specific gravity, without sugar or albumen. This term has been loosely used to cover all forms of excessive urination elimination without reference to the state of the urine, but Charles Henry Ralfe, in **Albutt's System of Medicine**, properly classifies the disease under two general heads: (a) That in which the aqueous superflux is most marked—hydruria;

(b) that in which the drain of one or more of the solid constituents of the urine is persistent—polyuria.

The case I report tonight properly belongs to the class, hydruria, as it is characterized by a large discharge of urine, low in specific gravity, without proportionate increase of the solid matters, or sugar or albumen.

Hydruria is somewhat a rare disease, the register of the London Hospital showing only eight cases admitted from 1876 to 1895, while Osler states there have been only three cases of diabetes insipidus in 239,000 cases in the Johns Hopkins Hospital and Dispensary. Ralfe, however, saw twenty cases in fifteen years' hospital practice, and nine cases in private practice, with thirty-eight other cases which he collated. Since inquiring among my colleagues concerning the prevalence of this disease I am inclined to believe that the disease is more frequently observed than we thought possible. Personally I have seen three cases in twenty-four years' practice.

The aetiology is still a question of dispute. It is a disease of childhood and middle age, and males are affected in the proportion of two to one. Cases occurring in childhood are frequently of parents who are glycosuric or albuminuric. Tuberculosis and gout seem to predispose to the disease. Malnutrition is one of the foremost remote causes. Of the immediate causes anything which tends to depress the nervous system plays its part, and tumors or injuries which interfere with the transmission of nervous influence disturbing vaso-motor governance of the renal vessels must be considered as aetiological factors.

**Symptoms**—The Symptoms are profusion of urine, intense thirst and gradual asthenia. The urine is non-albuminuric and glycosuric. The quantity of urine varies from two and one-half to fifty pints. The specific gravity is always low, sometimes apparently as low as distilled water, but Ralfe says this is due to a careless reading of the specific gravity, as the urine should be at a temperature of 100° F.

Disturbances of enervation are frequent, headaches, shooting pains, spasmodic affections of the gastro-intestinal tract, hiccough, etc.

Disturbances of nutrition are apt to set in early, the temperature is often subnormal, the pulse is feeble and the blood-pressure is low. Fatal cases are due to exhaustion, followed by coma, or diarrhoea, or sometimes a form of low, congestive pneumonia.

The diagnosis is usually easy; it is to be differentiated from diabetes mellitus, hysteria, large cysts of the kidney, incontinence, etc.

The prognosis is variable, some cases lasting only a short time. A few results in recovery, and many not, and one case is on record which lasted fifty years. The majority of the cases are of long standing, and the patient succumbs to some intercurrent disease.

#### Pathology.

The pathology is still theoretical; it is pretty well agreed that the disease is due to want of inhibitory control of the vaso-motor renal

nerves. Renal changes which have been noticed in cases of long standing were probably due to the mechanical effects of the disease.

As Ralfe says: "It is interesting to trace the course of the nerves forming the renal plexus, as irritation from eccentric or distant sources may play a part in inhibiting the renal nerves. Thus, the nerves forming the renal plexus are derived from the solar plexus; as the right vagus and great and lesser splanchnics join the solar plexus, it is probable that branches of these nerves enter the kidney by way of the renal plexus. The splanchnics also send branches direct to the renal plexus; and the left vagus sends some fibres to the left kidney. They contain vaso-constrictor, vasodilator and sensory fibres. The connection through the vagus brings us into range with the medulla oblongata, and with many organs susceptible of tubercular or syphilitic growths, or of sudden shock, such as chill. The solar plexus may propagate the effects of abdominal new growths or aneurisms."

The patient before you tonight is J. B. K., of Deadwood, S. D., a railroad conductor, aged 32, single, American. Family history negative. Had typhoid fever when small; also, last year in September. January 17, 1903, he fell from a freight car backward on to a coal car, striking on his hip, back and side. Says his back has been weaker since this accident. Has always been accustomed for past fourteen years, since he has been railroading, to long hours of hard work, irregular meals and sleep. Has been troubled more or less with constipation during the past eight or nine years.

Began about the 1st of last August to pass large quantities of urine, pale in color, at frequent intervals, every 30 or 40 minutes during the day, and about every hour or two during the night. No pain or smarting or other subjective symptoms. Passed from the beginning of the attack from 35 to 40 pints each twenty-four hours, the largest amount being about ten days ago—40 pints. He has lost almost no weight, his average weight being about 153 pounds. Now it is 150 pounds. Appetite good, and has not lost strength, except he is unable to sustain severe labor on account of the loss of sleep.

You notice he is a well developed man, and the examination of his body is negative, so far as evidence of disease is concerned.

The pulse is 70, and the blood pressure is very low, registering only 85. The respirations are 20. The blood examination reveals erythrocytes, 5,100,000; leucocytes, 15,000; haemoglobin, 80 per cent. (Dare); small mononuclear leucocytes, 24 per cent.; large mononuclear 1, 1 per cent; polymorphonuclear 1, 68 per cent.

Dr. Tieken examined the blood and urine. Blood, freezing point, 060, .4 lower than normal. The urine was 1002 specific gravity, urea, .1 of 1 per cent; no sugar or albumen, freezing point, .011.

The amount of urine this patient has been voiding during the two weeks he has been in the city under my observation has averaged



from 11 to 18 pints in the twelve hours, he partaking of one or two pints less fluid than is voided. His thirst is quite uncontrollable.

The question that arises in my mind is what relation is there between the injury sustained in January and the sudden onset of the diabetes? Did the injury cause the spinal lesions which finally resulted in the loss of vaso-motor control.

Dr. Bertha Van Hoosen telephoned me the other day and asked if I had examined for the plasmodia. I have since done so with negative result. She reported the case of a niece, aged 10 years, who has long been an hydruric patient, and in whom the plasmodium was found, and who improved after she was placed on anti-malarial treatment, although she is still voiding a much larger quantity than normal.

100 State street.

### Discussion.

**Dr. N. S. Davis** was asked to open the discussion. He said: Mr. President. I would like to ask Dr. Robison a question. Did I understand that the patient came from Colorado?

**Dr. Robison:** He came from South Dakota.

**Dr. Davis:** I would like to ask whether the polyuria was greater there than here?

**Dr. Robison:** It came on suddenly and was about the same in amount. One fact I mentioned was that there were no diabetic symptoms following the accident he sustained on the 27th of January. The polyuria came on without warning, except that a few days previously the patient felt somewhat fatigued.

**Dr. Davis (continuing):** Why I asked the question was that it is often suggested that in the treatment of these cases an attempt be made to bring about vicarious elimination through the skin and lungs, hoping that by so doing the polyuria will be lessened. At as high an altitude as this patient formerly was, there ought to be considerable elimination by the lungs and skin, and a lessening of the amount of urine voided. There ought to be a larger elimination now by the kidneys than when the patient was in the West.

In the cases that have come under my observation I have found no medicine do good. Usually the patients were very much distressed because they had to make water so frequently. It interfered with sleep and often made them nervous and apprehensive. They were generally pale, indeed a little anemic. Such patients are liable to many ups and downs, as regards the amount of urine voided, but there was no permanent improvement. One or two patients whom I constantly watched for a number of years had such a history. Two or three other cases which I have in mind. I saw only for a few weeks at a time, so that I am not able to say what effect treatment had. Stimulation of the skin to act freely; provoking free liquid movements from the bowels, are measures which lessen the elimination of water. However I believe the best results are obtained by restricting the quantity of fluid taken. This restriction should be made slowly and gradually, so that the pa-

tient suffers no great discomfort, but usually affords marked relief of the discomforts of polyuria.

**Dr. Frank Billings:** There is a woman at the Presbyterian Hospital who, on an average, passes more than ten ounces of urine an hour, night and day, of low specific gravity. The case is like one of diabetes insipidus, but in this particular instance there is compression of the cord. Dr. Moyer is familiar with the case, and I think it would be interesting in this connection to have him say something about it.

**Dr. Harold N. Moyer:** In reference to the remarks made by Dr. Billings, I will say that this young woman, seemingly previously well, with no special impairment of health, in June noticed a little difficulty in walking. This condition continued for four or five weeks; then her locomotion becoming more impaired, finally she became paretic in the lower extremities. There was total paralysis both as to sensation and motion. There was no particular pain connected with the onset of the malady, nor with its course excepting an indefinite feeling of discomfort, or uneasiness about the level of the sixth rib.

At the time she was admitted to the hospital she had well marked signs of compression of the cord, and the focalizing symptoms placed the compression at the fourth dorsal vertebra. It was probably not quite complete as to sensation. I believe that a slight painful sensation was experienced in the lower extremity, but other than that, sensation was cut off.

An operation was made on Monday by Dr. Bevan, and an osteoma was found which completely compressed the cord at the level of the fourth dorsal segment, the cord having been compressed to a ribbon not more than an eighth inch in diameter. I think the symptom mentioned by Dr. Billings developed yesterday, one day after the operation.

In view of the very great obscurity of such cases as have been described by Dr. Robison, and the fact that no very satisfactory explanation of them has been offered this case may point to a nervous condition, probably of the gray matter; possibly in the cord. In this case it would seem to point to involvement of the gray matter of the cord, and that this was the highest level of the nervous system that was involved in this particular instance, everything above that was intact.

**Dr. Joseph C. Beck** read a paper entitled *Radium, its Uses in Some Ear, Nose and Throat Affections.*

**Discussion on the Paper of Dr. Joseph C. Beck.**

**Dr. William L. Ballenger:** I promised Dr. Beck that I would speak on his paper, but owing to the lateness of the hour, I rather hesitate to do so. However, I simply want to corroborate the results obtained by him in the three cases I placed under his care. In one case of sarcoma of the nose he succeeded in controlling pain, otherwise there is no result.

In another case I removed a spur from the septum. After complete healing of the same,



there was continued dull pain in the anterior portion of the septum. I could not determine the nature of it, unless it was due to a terminal injury to a nerve, neuralgic, or what-not. I used various applications, placebo, etc., as well as suggestion, but with no beneficial results. I then placed the patient in Dr. Beck's hands, who very speedily relieved her of pain by the use of radium.

The third case was one of mastoid trouble in which there was severe pain probably due to a basilar meningitis of a chronic type, which has not yielded in any measure to the radium, except that it makes her sleep better. The pain has not been relieved.

#### Report of a Case of Post-Diphtheritic Paralysis. Abstract.

**Wm. J. Butler, Chicago.** The author stated that among the older writers some attributed all cases of sudden death in diphtheria to extension of the membrane into the larynx, maintaining this in the face of tracheotomy. Trousseau suggested that some cases of sudden death in diphtheria were due to disturbance of heart function, the result of changes in that organ. After narrating the earliest recorded pathological observations and discussing at great length the modern views in regard to this subject, the author reported the following interesting case; of cardiac paralysis:

Dora W., Jewish, aged 12 years; second youngest of five children, all living and well. Was never sick, with the exception of an attack of gastroenteritis at two years. She had eczema capitis from the second week of life to the end of the first year. She weighed 91 pounds before taken ill, about June 15th, when she complained of sore throat, headache, chills and fever; also vomited. Submaxillary swellings appeared on both sides. The mother considered it mumps and treated the patient with linseed poultices and a gargle, consisting of potash and borax. About ten days after onset another member of the household complained of sore throat, when a doctor was called in and pronounced the disease diphtheria. By this time liquids had started to return through nose of patient on effort at swallowing them. He gave her two thousand units of antitoxin at once, after which she seemed better for a couple of days and sat up in bed. While in this position she was taken with severe epigastric pain and vomiting. Complained of dizziness, and seemed very short of breath. Face grew pale, and lips blue, and she lost consciousness. This lasted several minutes, and on arousing she again complained of abdominal pain, vomited and fainted. On recovering from this she had a similar third attack. Thereafter she complained of pain in the chest, and was very restless. Her breathing was labored and rapid, and she had to be elevated during the night to breathe. During the same night she had two or three attacks of great pain, vomiting and syncope, cyanosis and coldness of extremities. She now began to cough and expectorated a bloody, frothy sputum. The spells of syncope recurred from

a few to several times in twenty-four hours, frequently preceded by pain or vomiting, or both. At other times she vomited or complained of severe epigastric pain only.

In the course of four or five days the pain localized itself over the precordial area and lower part of the sternum. Syncope now became less frequent, but severe attacks of angina, with great difficulty in breathing, occurred several times every twenty-four hours. Frequent cough and bloody expectoration continued. About July 3rd it was noticed that she not only had difficulty in swallowing liquids, but could not swallow solids.

He first saw the patient about July 1st, and found the following: The patient was apathetic; coughed frequently and hard, expectorating a bloody serum. She complained of pain over the lower part of the sternum and precordia. Face pale, with cyanosis of lips. Eyes negative; tongue moist, and slightly coated. Soft palate immovable. Complete aphonia. No swelling of glands noticeable at present. Marked venous pulse extending into lobe, carotids not palpable. Breathing labored and rapid, forty per minute; at times of Cheyne-Stokes type. Respiratory movements entirely thoracic and confined to the upper part of the chest. Excursion equal on both sides. Percussion gave hyperresonant sound anteriorly on both sides, lower border on right side terminating on sixth rib, and immovable on inspiration. On left side it extended to third rib. Auscultation gave vesicular breathing, accompanied with dry rales over both lungs, but almost inaudible in lower and lateral parts of chest. Examination of lungs posteriorly gave resonance above, but dullness on right side from mid-scapular region down, and on left side from angle of scapula to lower border.

Auscultation gave vesicular sounds above with dry rales, disappearing over dull area. No visible apex beat or impulse of chest wall.

**Heart:** Dullness above commenced in second interspace, becoming absolute on third rib. Toward the right, absolute dullness extended two fingers breadth to the right of the right sternal border. To the left, dullness commenced just inside the anterior axillary line. Auscultation gave feeble heart tones, with galop rhythm over the entire heart. There were no murmurs. Pulse was 120 per minute, irregular in quantity, intermittent, very feeble, and small.

**Abdomen:** Retraction of epigastrium on inspiration. Liver extends three fingers breadth below the rib arch in mammillary line and is painful to pressure. Lower border palpable. Spleen not palpable. No ascites. No edema of extremities. Patellar reflexes absent. Gave strychnine, grains 1-60, and codeine, gr.  $\frac{1}{4}$ .

After a few days slight improvement was noted. The pulse was a little less irregular and intermittent and of slightly improved tension. The patient had had only one spell of syncope and attacks of angina were less frequent. Cough did not seem so troublesome, and

expectoration was diminished. Heart tones were a little louder, but galop rhythm continued.

July 16th she had two attacks of syncope, preceded by severe precordial pain. July 17th, Dr. Stein examined the larynx and found paralysis of the tensors. Swallowing of solids still difficult. On morning of July 19th, found cough much increased; copious expectoration of red-colored sputum. Respiration 40 and labored. Conditions of swallowing and speaking unchanged. Numerous dry and subcrepitant rales heard over lateral surfaces of chest. Galop rhythm marked. Sounds feeble; pulse 130, of lower tension, and smaller volume than on previous day. On inquiry, found patient had not received any medication for sixteen hours. This suggested the possibility that her previous improvement might have been influenced to some extent by therapy, and the writer therefore ordered strychnine and codeine to be given every three hours during that day. He saw the patient the same evening and found the cough less frequent. Respirations 32 per minute. Auscultation of lungs unchanged. Heart area unchanged except dullness to the right of the sternum was less intense. Heart tones stronger and galop rhythm hardly distinguishable, although it was observed the next day. From this on, improvement was maintained, and on July 27th the following condition was found: Face pale; mucosa cyanosed; voice sounds moderately loud; soft palate moved slightly; patient swallows solids, but with difficulty; venous pulse noticeable only in lower part of neck. Carotids palpable. Respirations still thoracic. Lower lung borders the same, with slight clearing on inspiration. Respiratory sounds more distinct in the lower and lateral surfaces of the chest. Posteriorly, the dullness below the angle of the scapula previously noted faded into a dull tympanitic resonance on the right side, and at a lower level on the left side. Respiratory murmur more distinct and accompanied by occasional rales. Heart area the same with dullness less distinct to the right of sternum. Heart tones moderately loud, with galop rhythm heard chiefly over the apex and base. Epigastric retraction on inspiration. Liver dullness about two fingers breadth below the costal arch.

On August 8th, diminished heart area, and louder second pulmonic than aortic tone. Galop rhythm still continued. Strabismus present, there being paralysis of both external recti.

The writer saw patient about September 10, when she was out of bed. Physical signs about the same as at the previous examination. She walks with an ataxic, paretic gait. Patellar reflexes still absent. Pulse 104; fair tension, and not intermittent, but accelerated on slight exertion, with complaint of palpitation.

The diagnosis in the above case seemed clear, namely, a post-diphtheric paralysis of unusual extent, involving the external recti of the eyes, the soft palate, the pharynx, the adductors of the larynx, the diaphragm, and peripheral nerves. Acute cardiac dilatation, with pulmonary hypostasis and edema; also liver stasis.

Among the 270 cases of post-diphtheric paralysis reported by Myers, in only one was

the larynx involved. The conditions which specially interested the writer in this case concerned the heart and diaphragm. In the fatal cases of cardiac complication during or following diphtheria, various writers on the subject lay special stress on the galop rhythm, vomiting at the height of attack of diphtheria, or in convalescence; the pallor of the face, cyanosed lips, the rapid, feeble, irregular and intermittent pulse; the syncope; more recently the much emphasized epigastric pain, all of which were present in the above case.

The treatment employed consisted of codeine to allay restlessness and cough, strychnia, which latter seemed to exert a favorable influence on the heart tones from the beginning of its use.

#### Discussion on the Paper of Dr. W. J. Butler.

Dr. Frank S. Churchill: 'Dr. Butler's paper is most interesting, and there are one or two points to which I would like to refer, especially with reference to the pathological condition of the vagus, which supplies nerves to the soft palate. We must insist on rigid treatment in those cases suffering from regurgitation of fluids through the nose, and keep such patients in bed. My observation has been that this is not done frequently enough. I have seen patients allowed to run about and given instructions to return to the clinic. They should be kept in bed until all such symptoms have entirely disappeared, because, even if there are no signs of cardiac trouble at that time, the difficulty in swallowing should be a danger signal, and we should be on the lookout for heart complications. If these cases are carefully watched, we should have ample warning of heart failure, particularly if we watch the pulse, and make a daily examination of the heart, thus enabling us to detect the slightest change in its rhythm.

I did not understand from Dr. Butler's report that there was any mention of the urine in his case, and I should like to ask him if the urine was examined. I speak of this because several years ago the importance of a thorough examination of the urine was forcibly impressed upon me by a case which came to our clinic at Rush Medical College. A child came in in March, having suffered from diphtheria the December before, followed by an extensive post-diphtheric paralysis. The child was treated purely for his paralysis during the months of January and February and early March, and was given vigorous tonic treatment, forced feeding, with large amounts of meats, eggs, and milk; in short, a very nutritious diet. The urine had never been examined. The child did not do well; on the contrary, he grew worse and worse. I examined the urine, and found extensive chronic parenchymatous nephritis. If the urine had been examined earlier in the case, the physician in charge would not have given the child such a nutritious diet. He would have cut out meats. It impressed upon me anew the importance of examining the urine in all cases; for while nephritis is not so common after diphtheria as it is after scarlatina, it is



far more common after the former disease than is generally supposed.

**Dr. Adolph Gehrmann:** It seems to me that clinicians can learn something from animal experiments with the diphtheria toxin and antitoxin. Of course, with an overwhelming injection of a toxin, that could be given, the animal would die in a short time; but the amount can be so regulated that one can almost definitely say the animal will die within a certain number of days, or upon a certain day, extending it to a week or ten days ahead. The action in these small amounts is not immediate, but apparently some slow combination takes place that gradually makes the poison more and more felt, until eventually it causes death of the animal. It is also established in tetanus that antitoxin does not neutralize the toxin that has been absorbed by the nerves, as well as the toxin which is still floating in the blood. Therefore, it has been proposed that we inject antitoxin in tetanus directly into the nerves. The toxin travels along the nerves, produces destruction, reaches gray matter eventually, and causes a fatal result. It is possible in diphtheria that the same condition occurs, and we have therefore this delayed condition of death. I believe that the writer of the paper is correct in his statement; and it can be followed out by statistics, and that the reason for the increase in the number of deaths of this character is due to the fact that the immediate causes of death by neutralization of the toxins through the use of antitoxin and by suffocation. Cases live and thus gives a chance for the delayed results of the toxin action which has already been absorbed or combined.

**Dr. Butler** (closing the discussion): In regard to the remarks of Dr. Churchill, I will say that daily urinalyses were made, and they were negative. We also examined the blood, as matter of routine work.

I have nothing further to add, except to point out the necessity for watchfulness in cases of diphtheria that may show any irregularity in rhythm or quality of the pulse or any of the symptoms recognized as indicative of cardiac complications, which would call for keeping the patient in bed and holding under careful observation for some time after the first appearance of any of these symptoms, as rest in bed is the most essential factor in their treatment. These cardiac disturbances are far more frequent in cases that come late under treatment, and such cases require close watching, as the slightest changes in the pulse may simply antedate only a few hours or days the most serious heart changes.

A paper **Bronchoscopy for Foreign Bodies in the Bronchial Tubes**, was read by Dr. E. Fletcher Ingals, see page 616.

#### MEETING OF NOVEMBER 2, 1904.

A regular meeting of the Chicago Medical Society was held Nov. 2. Dr. B. W. Sippy presented a case of **Stenosis of the Lower Part of the Esophagus**.

#### Discussion on Dr. Sippy's Case.

**Dr. Harold N. Moyer:** This is the second time I have seen so far into a living body. The

first time I ever saw a firm tube passed into the esophagus was in Vienna in 1882, and I cannot recall the name of the woman, but doubtless some of you here will remember the name of the woman who used to teach us the anatomy of the larynx, how to look into and examine it with the laryngoscope and touch the vocal cords. She permitted the instrument to be passed down her esophagus, and so far as I know, no one else ever did it, and this was before the days of cocaine. She voluntarily assisted at the operation in her usual skilful manner.

**Dr. Norman Bridge:** I should like to say about the remarks of Dr. Sippy about the normal condition of the cardiac end of the esophagus, namely, that it is in a condition of tonic contraction, that Dr. Ingals told me of one examination he made with an instrument similar to the one used here tonight, in which he found the cardiac extremity of the esophagus absolutely open, much to his surprise. I have no doubt that was due to some pathologic state, and that the statement of Dr. Sippy is entirely correct as to the usual condition of the lower end of the esophagus.

I feel as a physician that what Dr. Sippy said about the necessity of care as to spasm of the cardia is very important, for I have known some instances where violence was done by using small bougies and by pushing them too forcibly against the spasm of the cardiac end of the esophagus, producing injury through traumatism. One patient had abdominal tuberculosis, and died of it. There was also present tuberculosis of the lungs in a less advanced state; but the patient had also, early in the sickness, a stricture of the esophagus. One physician tried various devices with which to explore her stomach, and I believe never succeeded in passing an instrument into the stomach. I do not know the size of the instrument he used, but the case was one of spasm evidently, for long before death the spasm entirely disappeared and the patient was able to swallow without any difficulty whatever. While under my observation, which was earlier in the case than the time when the instruments were used the spasm was present so that at times it was impossible to swallow. At other times it would relax and swallowing would be accomplished for a few minutes without any difficulty.

**Dr. Norval H. Pierce:** It is exceedingly interesting to trace the history of these various procedures to gain a view of the interior of the body. The principle is the ancient one of inspection through a straight tube. The modern development started with Desormeaux and his urethroscope in the last century (1853), and the first esophagoscopy was made by Kussmaul in 1868 with the urethroscope of Desormeaux, and direct laryngoscopy, tracheoscopy and bronchoscopy were the result directly of false passages in attempted esophagoscopies. In other words, the tubes used in those days and since were by accident introduced into the larynx, and it was found we could get a good view of the larynx in that way, and of the trachea, and latterly with advances of Killian.



Mikulicz, V. Hacker, Kerstein and others we may readily gain a view of the bronchial tubes even down to the second tube.

I have had no personal experience with the use of the esophagoscope in treating diseased conditions. I have, however, used it in the diagnosis of tumors and in extracting foreign bodies. It seems to me, that from a practical standpoint the esophagoscope has a rather limited, though well-defined, sphere. In diagnosis it is extremely important, an instance of which is well brought out by Dr. Sippy, but hard it is to handle in a great many cases, but for the purpose of detecting and extracting foreign bodies it stands pre-eminent to all other measures.

#### **Congenital Club-Foot.**

**Frederick Mueller, M. D.,** Chicago: Ladies and Gentlemen—I have the honor to show you this evening a case of congenital club-foot. Although such cases ordinarily treated by **redressment** would not appeal to you, I think this one is apt to interest you. The patient you see before you is a man, 48 years of age, with congenital club-foot. About thirty years ago he was treated by tenotomies of the achilles tendon on both sides, with only slight result. Ever since he has suffered. He has been very much handicapped in walking and in standing. When I saw him first, it was about two weeks ago, his left foot presented the aspect of severe club-foot, and no signs of any previous treatment. The patient walked on the outside border. The foot was very much inflected, and the axes of both feet formed an angle of over ninety degrees, which opened toward the back. The right foot showed some improvement by the tenotomy which was performed at the age of 19. There was a considerable degree of adduction of the foot. A friend of this patient, a young man, 22 years of age, with double congenital club-foot, was successfully operated upon by me some months ago, and the result in that case stimulated this patient to have an operation done on his feet, which I performed October 21st, by **modelling redressement**, combined with tenotomy of the achilles tendons and the long extensors of the fourth and fifth toes of the left foot. After the operation and application of the casts there was no trouble with the circulation, and the patient had only moderate pain.

As to the age of patients that have been operated upon by **modelling redressement**, a man was operated at the age of 42 years by Lorenz, and this present case holds the record of being the oldest patient ever operated upon by **modelling redressement**, and from that standpoint the case deserves some attention.

You will observe that the patient walks a little awkwardly, because only twelve days have elapsed since the operation was performed. Although the feet are somewhat sore, and are in casts, the patient stands up and can move about fairly well. You will notice that the patient is plantigrade now and that the angle formed by the axis of his foot opens toward the front, whereas before the operation the angle opened toward the back, meaning by that

the toes were situated in this way (indicating). If you mark the patellae on both sides, you will notice that they correspond pretty nearly to the situation in which they are situated in a normal person, which means that the line of the patellae corresponds nearly to the plane which goes through the big toe. The patient's feet are in casts, and he wears leather shoes over these casts.

Like all other patients of this kind he will be able to resume his former occupation within a few days, and he will be able to do all his work. After six months, which is the usual time to wear the casts, the plaster is removed and the after-treatment, consisting in massage and exercises, is begun.

#### **Myasthenia Gravis.**

##### **Abstract.**

**Dr. Mortimer Frank** read a paper on this subject, saying that it is a rare disease in childhood. Fifty per cent of the cases have been in the female sex, and between the ages of twenty and thirty years. Only three cases have been reported under the age of ten years. The most important symptoms are ptosis, which was present in over 80 per cent of all recorded cases, ophthalmoplegia externa, weakness of the muscles of the face, speech, arms and legs. Even more marked than the weakness was the rapid tiring of the muscles on use and upon stimulation by the faradic current. The phenomenon of rapid tiring is usually confined to a few muscles or a group of muscles.

Prognosis as regards recovery is practically hopeless. Average duration of the disease from one to three years. Treatment of little benefit. Pathology vague and uncertain. As yet, no characteristic lesions either macroscopic or microscopic.

The case reported was in a female child, ten years of age. Ptosis was first noticed in Nov. 1902. The present condition, bilateral ptosis and external ophthalmoplegia.

**Dr. Julius Grinker:** I have been extremely interested in the case reported on account of the ophthalmoplegia externa constituting the only symptom of myasthenia gravis. Usually there are other muscles involved, but in those cases where there are only ophthalmoplegia, some of the other muscles become involved later. The only other case that I have seen which resembles this one was in Oppenheim's clinic about a year and a half ago. He called it myasthenia gravis with ophthalmoplegia externa, but in that case the muscles concerned in the production of speech were also involved. For instance, the patient would be asked to count up to a hundred, and while the girl would count properly up to fifty, when she reached that number her voice would become almost a whisper, and she would gradually cease counting on account of the exhaustion produced. After allowing her to rest for a while she would regain her voice. Besides those mentioned there were no other symptoms. Oppenheim, as we know, was one of the first to describe this disease and he wrote an excellent monograph on myasthenia gravis. He examined her thoroughly, and failed

to find the myasthenic reaction; the ophthalmoplegia externa was not as complete as in Dr. Frank's case. It appears that the disease hardly ever remains an ophthalmoplegia externa without sooner or later developing the characteristic exhaustion in some other muscles.

#### Discussion on Dr. Frank's Paper.

**Dr. Harold N. Moyer:** At a meeting of the Neurological Society I showed two cases of this disease strikingly like Dr. Frank's case. Both of my cases had ophthalmoplegia externa, and one ophthalmoplegia externa and interna. One patient has recovered. He says he has been well for two years but there is a liability to relapse even after a considerable period of time.

I recently showed to the Chicago Neurological Society, one of these patients who says she is well. Both of these cases, as I have said, had eye symptoms. Both had ptosis, but the young woman at no time had complete loss of motion of the eyeball only a limitation. As she described it, she could turn her head, but not her eyes.

I have doubtless seen other cases before this symptom-complex was well described, but my recollection of them is not clear. I have only seen these two cases since the publication of Oppenheim's paper.

The disease in my cases was more rapid than in most of the cases named in the literature. The onset was rapid in the sense that the attack was well developed in two or three months, and had extended to and involved numerous muscles. The disease in one case occurred in 1903, about Christmas or New Year's, and she was unable to get on a street-car or walk upstairs by the next April. About the middle of July she was very much improved, and she could walk for a mile or two. Both of these cases were characterized by one striking feature. They were sick patients in a general way. They seemed very much like cases of typhoid without fever. There was no elevation of temperature, the toxemia was marked, a thick coated tongue, grayish ashen countenance, rapid loss in weight, not accounted for by the impaired mastication. One of them had considerable difficulty in swallowing for a period of two or three weeks, but digestion went on all right. One patient lost thirty-seven pounds in weight inside of three months. I believe the underlying basis in these cases is a toxemia. It is a poisoning of the cells of the nervous system, and this accounts for their varying condition from time to time, and in the cases which I have observed there was a comparatively rapid improvement.

**Dr. Sydney Kuh:** We are indebted to Dr. Frank for the demonstration of a very rare type of a disease which in itself is not at all common, although it is very probable, as we become more familiar with the symptoms of myasthenia, we will see more cases than we have heretofore. There are only very few instances on record of myasthenia gravis in which the eye muscles alone were affected for a longer period of time, in most cases the difficulty with the extrinsic muscles of the eye was soon followed by weakness in other groups

of muscles. Eulenburg has perhaps published the best example of pure extrinsic ophthalmoplegia lasting for some time; and then there is the case of Charcot and Marinesco; another case by Karplus, and Wharton Sinkler has published one, and there may be one or two others of the same type. There was some difference of opinion, at first, as to the exact nature of Dr. Frank's case. A diagnosis of hysteria was suggested, and it is not at all improbable that quite a number of cases of myasthenia gravis are carried along for some time under that diagnosis. Here we see a paralysis which comes and goes, with absolutely no objective changes unless a battery be used and the myasthenic reaction discovered. These patients are more or less completely paralyzed, sometimes for months. Suddenly they get up and walk around as though nothing had happened, which suggests the possibility of a purely functional trouble. Still I believe the name suggested by Oppenheim, of bulbar neurosis, or of bulbar paralysis without anatomical substratum, is a misleading name.

Post-mortem examinations have yielded no uniform results. The one finding which has attracted the most attention is that of Weigert, who, in 1901, published a case in which he had found lymphosarcoma of the thymus gland, and what were probably metastatic tumors within the muscles. Since then several other authors have reported a similar state of affairs. Within the last few months Hun of Albany has described the findings in a case in which there was a tumor of the thymus gland with metastatic lesions in the muscle. Still a number of the cases examined since Weigert's publication, especially with a view to the discovery of such lymphoid infiltration, have yielded negative results—the majority of them. Just at present, I am nearly through with the examination of a case of myasthenia. One thing that has not been done thoroughly by me is the microscopic examination of the muscles. I have glanced at them, and if there is any lymphoid infiltration in them at all, it is very slight, and present only in a few of the muscles which were paralyzed. On the other hand, my case has shown changes just in that region of the central nervous system which we would theoretically suppose to be affected in the disease, and they are changes of a nature which the methods of examination ordinarily employed, those which stain only nerve elements, the Nissl method, the Weigert method, the Pal method, etc., would not show, so that there is a bare possibility that we are getting a step closer to the pathology of this disease. One thing, I think, can be said very definitely, that there must be some anatomical basis. Aside from the lymphoid infiltration, several other changes less constant have been described. One of them are nerve fibers in the affected nerves, very small in size, which lead to the conclusion that we might have to deal with a congenitally weak central nervous system. Oppenheim has described some other congenital anomalies of the central nervous system, supposing them to demonstrate congenital weakness. Then, hemorrhages have



been found in many cases, in one instance an old hemorrhage, which probably had existed before any of the symptoms of myasthenia in all other cases the hemorrhages were recent. They have been seen where death was due to asphyxia. They were present in my case, and that patient died from asphyxia.

**Dr. L. Harrison Mettler:** The general view is, as Dr. Moyer has said, that a toxæmia underlies these cases of myasthenia gravis. A case in regard to which I was consulted about a year ago followed shortly after an attack of scarlet fever in an adult. It was in an academy where there had been a mild epidemic. The patient, an instructor, had the scarlatina in an aborted form. Only a slight temporary rash appeared on the skin. He assisted in the formaldehyde fumigations, soon after which the first myasthenic symptoms appeared. The latter were typical in every respect. There was first ptosis on one side and then on the other. Then the bulbar manifestations appeared, causing labored speech and difficulty in swallowing. Gradually the motor phenomena appeared in other parts of the body. The rapid exhaustion of the muscles was the striking feature. A short walk, the eating of a meal, a prolonged conversation completely wearied the patient and quickly terminated. Another typical feature was the fact that at times the patient seemed perfectly well, but at other times he was so profoundly collapsed that it seemed he could not possibly live. The respiratory failure at times was especially alarming. There were no sensory symptoms. The trouble clearly was one of the lower motor segment. Whether the lesion in this mysterious disease is in the nuclei, or in the peripheral nerve strands, or in the muscles, has not yet been determined. The affection is most emphatically not a mere functional trouble, but in all probability an organic lesion of the lower motor neurones, caused by some profound form of toxæmia.

In making a study of the cases in the literature, it has seemed to me that the peculiar characteristic of myasthenia gravis is something more than mere weakness. There is a kind of periodicity about the disease. It comes and goes, clinically at least; not regularly, but in a way most suggestive of the appearance and disappearance or attenuation of a virulent poison. In practically all of these cases, my own, those in the literature and those reported here tonight, there have been periods of profound weakness, then partial or complete recovery, then weakness again, and so on to the end. These spells are sometimes, of course, due to the exhaustion from exercise, but sometimes they come on when the patient is guardedly kept very quiet. Even severe respiratory collapse has occurred when the patient was quiet on his back. Ultimately these cases are all fatal, most of them dying of asphyxia. This sort of periodicity (and I use the word sort here for a special purpose, as myasthenia is not a pure periodical disease or neurosis) is a marked feature in its clinical course. It may be that it is not far removed from certain

types of periodical paralysis with which we have long been familiar, both in connection with the ocular muscles and the muscles of the extremities.

The hypothesis has been put forth that in these periodical paralyses there is produced somehow periodically within the body a profound poison which affects the lower motor neurones, then ceases, then reappears and attacks them again and so on. It has been surmised that while the poison is produced continuously at times, it is produced in larger amount or with a higher degree of virulence than at other times. At times the clinical manifestations of both the periodical paralysis and the myasthenia gravis, all highly suggestive of the truthfulness of the above hypothesis. Positively, however, we know nothing about it.

At the present time myasthenia gravis must be regarded as a fatal disease, though its frequently prolonged course and its periods of apparent quiescence or disappearance may easily lead one to interpret as a cure what is merely a temporary remission. My own case died about nine months after the first appearance of the symptoms, though in that time he had had a number of remissions that had been imagined as possible recovery by his family and those in attendance.

**Dr. Frank** (closing the discussion): I would like to say a word in regard to paralysis of the intrinsic muscles. In a hundred and twenty-six references referred to, including Oppenheim's monograph, I found that in no case was there paralysis of the intrinsic muscles, and the light and accommodation reflexes were normal. In only one case, Brissand and Lantzenberg, and that was decidedly doubtful, was there any paralysis of the ciliary or sphincter muscles.

#### Tabes.

**Harold N. Moyer, M. D., Chicago:** This evening we have had several examples of rare disease. Dr. Sippy has told us that stricture of the esophagus is more common than we have supposed, but it is rare. Myasthenia gravis is among the exceptional affections. I wish to invite your attention briefly to one of the commonest of all nervous diseases, tabes, and I do so in a sort of fault-finding spirit. Of all diseases that reach the physician the least likely to be diagnosticated is tabes. More than half of all I see have escaped diagnosis until the disease has advanced beyond the golden opportunity for its arrest. It seems as if the profession does not recognize tabes until one can tell it on the street. This arises from certain misconceptions in the mind of the profession, a faulty technique, but especially because of an incorrect nomenclature and the conceptions that grow out of it, the term locomotor ataxia the most faulty of all. Tabes is not locomotor ataxia, nor is locomotor ataxia tabes, although you will find in most of the standard works that use the term tabes one of the synonyms is locomotor ataxia. It is a



wrong conception of the disease. A case of tabes may not have ataxia of locomotion at all.

The old description of tabes gives us three stages: First, the preataxic stage; second, the ataxic stage; and, third, the paralytic or terminal stage. Any such conception of this disease is bound to lead to error, as only a minority of the cases pursue such a course. The ataxia may be the first symptom. The pains may come at last. There may be no pain and no ataxia; the knee jerks may remain; there is no single symptom or a single conception of the disease that implies definite progress of the affection that is applicable to all cases. The old term, "progressive locomotor ataxia," is faulty, because many of these cases do not progress; they become stationary, or get better.

Do not dismiss these cases as hopeless. The great majority of them are not, and when you speak of tabes as an incurable disease, you are doing great injustice to your patient and an injustice to yourself; not that these patients will be put back where they were, but a large proportion of them, under intelligent treatment and wise management, will experience a very considerable amelioration in the disorder, perhaps its arrest, or what to them is a symptomatic cure. That, in a brief way, is the present attitude of those who see a good deal of tabes and who do not take such a pessimistic view of its outcome. The attitude of the profession as to the hopelessness of this disorder is a misfortune to the patient. He wants the help of the physician, otherwise he will drift off into the hands of quacks, and a large share of our quackery gathers around a disease, that is at all common, and which the profession has an idea is incurable. This disease is the golden opportunity for the quack, and his treatments are heralded as a cure for locomotor ataxia. That is the fault of the profession, in relegating tabes to the class of the incurable.

Why is the diagnosis of tabes missed so often? Because there is nothing obvious in the symptoms of tabes to which the patient will call attention at an early date. The motor troubles of the nervous system are not missed in diagnosis. In cases of progressive muscular atrophy, or infantile spinal paralysis, the differentiation may be difficult, but there is something in the condition of the patient that calls the attention of the physician to the fact that there is something wrong with his nervous system.

As this patient sits here, he does not present any particular signs of trouble. Apparently he is not a sick man. He himself would not tell you anything that would lead you to think he had tabes. He complains of some discomfort in his legs, and he had at one time some pains, but aside from that, there is nothing in his history that would point to a nervous trouble. What are his symptoms? He has no knee jerk; he has an Argyll-Robertson pupil, and he sways when his eyes are closed.

In speaking of examination of the eyes, I would call your attention to a frequent error.

A hand is placed over the patient's eyes and, as he takes it away, glances at the pupil and says, they are all right. You can get a perfect reflex from this man's eyes, if you do it that way, as the accommodation is good. Testing with a match is useless with a patient like this; he looks at the match, and the pupil contracts. Shade the eyes, and have the patient look at a distant object. Be sure he is looking at the distant object, and then raise the hand and let the light strike the retina. If the pupil contracts, the light reflex is present. This is the most convenient way of testing. Another is to use a dark room, which is equally good.

In this case there is loss of the knee jerks and light reflex; he has slight swaying with the eyes closed, although this is less than it was. He has three of the cardinal symptoms of tabes. He feels at times as though his feet were asleep, but has no pains in the legs. The next most frequent symptom is not present at all. He has no trunk anesthesia. It is the only case I have seen in the last two or three years as far advanced as this which had trunk anesthesia.

The diagnosis was missed in this man's case because there is nothing in the symptoms that directs attention to the nervous system. The simple tests, such as here shown, should be made in a routine way, just as you examine the urine, lungs, and heart, in all cases of chronic illness. Examine the pupils, test the knee jerks, sensation of the skin, and make the tests for static ataxia. If that is done, you interrogate the sensory neurons of the nervous system. When the sensory neurons of the nervous system are diseased, at whatever level, that is tabes. If it happens to be that group of sensory neurons that come from the bladder, you will have bladder symptoms; if from the stomach, you will have stomach symptoms, or crisis. If it happens to be a group of sensory neurons from the larynx, you will have laryngeal crisis, and if the lower extremities are involved, the patient will have rheumatism in his legs, and so on throughout the whole list.

I brought this case here tonight not because it involved anything special, to make it a sort of text for what I had to say and to make a plea for a broader conception of tabes. I know of four cases of tabes that have been operated upon for pyloric stenosis. An examination of the neurons would have disclosed the true condition. In another case a normal prostate was removed.

Everything depends upon early recognition of these cases, before there is much destruction, at which time the treatment of the condition is comparatively simple. When the disease is extending or the process is at all acute, put the patient at rest. Take off strain and worry; give him alteratives,—by the latter I mean mercury,—which is the sheet-anchor in the treatment of these cases. I combine with it tonics. I look after the nutrition of the patient, and get him into the open air at the same time. The disease in this case had al-

ready existed two years before I saw him. I saw the patient two or three months ago. He has been put on alteratives. He can walk better than he could; he is stronger in his legs. Mercury in the treatment of tabes should be given with discretion. The mere doping of a patient with large doses of mercury is not the thing, but it should be given for its alternative effect, and it, combined with rest and proper management, together with correct hygiene and the elimination of strain, will afford great relief, if not a symptomatic cure. There is always the possibility of relapse, but this is true of many other diseases; when these occur the treatment must begin again. Even bed-ridden patients, if rested, built up and put on alternative treatment, can be so improved as to get out of bed and be taught to walk. Many of them live useful lives for years afterwards.

The prognosis of tabes is not as bad as the generality of the profession believes, and it is improved by the early recognition of its cardinal symptoms. This can only be done by a proper conception of it as a neuron disease.

Whenever you are confronted with an obscure affection of any organ, bear in mind that the sensory nerves that come from that organ may be diseased, the symptoms of which may simulate organic disease of the organ, while the true pathological changes are in the spinal cord.

#### Discussion on the Case of Dr. Moyer.

**Dr. Sydney Kuh:** With most of what Dr. Moyer has said I agree most heartily. There are a few points, however, in which I differ from him, and of these I should like to speak.

Dr. Moyer complains that tabes is frequently not recognized in the early stages by the general practitioner. That is undoubtedly true. Another equally common occurrence is that patients are sent to us by general practitioners, with a diagnosis of tabes, who have no tabes, because a thorough examination has not been made. I have seen cases of spastic conditions, cases of cerebellar ataxia, cases of progressive muscular atrophy and even of myasthenia gravis come to me with diagnosis of tabes, although in the latter the only parts of the body that were not affected were the lower extremities.

There is no doubt that the prognosis of tabes is much better than was formerly supposed. According to recent statistics, there had been in 60% of the cases observed spontaneous improvement without any treatment. Fully 75%, according to Diehler, improved under anti-syphilitic treatment. One thing, however, should be emphasized, and that is this: It is not at all rare to see cases of apparently benign tabes which present only a few symptoms of the disease and in which one might be tempted to give a relatively good prognosis, yet after a short period of time symptoms of dementia paralytica develop. I have had that experience in several cases in a relatively short time.

I also agree with Dr. Moyer in his criticism of the method of testing the reaction of the pupils to light by uncovering both eyes and

permitting the patient to converge when testing for reaction to light. I do not agree with him, however, as to the usefulness of the method which he has demonstrated here. He does not, in using that method, exclude consensual reaction, which may be present when reaction to light is absent. By exposing both eyes to the light at the same time—when only the left pupil is rigid to light—the light falling on the right pupil will cause a consensual reaction in the left eye, which would not respond to light.

A better method is to close one eye altogether and to shade the other eye in such a way that you can watch the movements of the eyeball and be certain that it does not converge when light is allowed to fall into it.

As to the treatment, there is no disagreement between us, and I advise with Dr. Moyer that moderate doses of mercury should be used. Excessive doses of mercury, however, are liable to do great harm in cases of tabes. The influence of rest in advanced cases is frequently very striking and a combination of these two therapeutic agents often leads to most gratifying results.

**Dr. Julius Grinker:** There is no doubt that Dr. Moyer's warning not to tell a patient who has tabes that he is doomed, or that there is absolutely no hope for him, is timely. It is a grave mistake to tell patients that this disease is incurable. By experience we find many of these cases are extremely suggestible. Some of them are even hysterical. Often hysteria and tabes are found in the same patient. Patients come to us with symptoms of hysteria and upon close examination we find tabes in addition. Most of them can be influenced for good and evil. The reason why we have more success today with tabetics is not so much because we have better remedies, but because we have learned a great deal more about the natural history of the disease, and we tell our patients what we know. It comforts them, and that forms part of our treatment. It is suggestion, pure and simple. The following is an instance of almost unparalleled suggestibility in a tabetic: Several years ago I treated a lady for gastric crisis, and those who have seen the genuine gastric crisis of tabes know what it is. The suffering cannot be described. I attempted to relieve the attacks by means of suggestion, in which subject I was greatly interested at that time. After a few preliminary sittings during the inter-paroxysmal periods, I could stop or control those violent attacks. I would say to the patient, "I want you to sleep and sleep for several hours; when you awake you will be free from pain." She did so, and when she awoke there was no more gastric crisis. This was, of course, a remarkable case, but it demonstrates to what extent even a tabetic is suggestible. We should, therefore, hold out hopeful prognosis, where it is evident we can carry our patients along with proper treatment. Tabes is a disease of long duration. It may last a life-time. Recently I made a microscopic examination of the cord of a case of tabes, which I will demonstrate at some future meeting of this Society. The case lasted



for fifteen years. Patient died, not because of tabes, but because she lived under the most unhygienic conditions imaginable. Tabes, though incurable, is a disease which does not kill quickly. Sometimes it does not kill at all, and many tabetics die in the natural course of events from some other disease.

The essayist is certainly correct in his statement that tabes is not diagnosed early enough. However, there is a change for the better in this respect. The younger generation of doctors are educated to recognize tabes early. Many of the cases we now get from ophthalmologists, when they examine the pupils and optic nerve and find either a reflex indoplegia or an optic atrophy, they think of tabes, and refer the case to the neurologist. We also get cases from the neurologists, the internist, and from the stomach specialist. I was speaking to a physician who makes somewhat of a specialty of diseases of the stomach, and he informed me that since he had learned to test the reflexes and to look for tabes, he had found that many of his supposed stomach cases were not instances of stomach trouble at all, but of tabes. This is a sign of progress.

Perhaps one of the earliest symptoms of tabes are the lancinating pains, or, may be, the so-called rheumatic pains, and a patient is treated for rheumatism when in reality he has the lancinating pains of tabes. These patients usually have some paresthesia of the plantar surfaces and perhaps some ataxia.

A word or two in regard to treatment: I believe that the treatment of tabes with mercury is not the one that is accepted by the bulk of neurologists. One of the arguments advanced by those who contend that tabes is not caused by syphilis is that mercury and potassium iodide do good in nervous syphilis, but are absolutely valueless in tabes. While the argument is a poor one, the statement upon which it is based is correct. You may give mercury in small doses or in large doses; you may give potassium iodide in small or in large doses, and you do not influence the course of the disease. I believe the majority of tabetics are made worse by mercury. Give patients a hopeful prognosis, hygienic rules to follow, and treat the symptoms as they arise. Too often a patient suffering from tabes, who complains of lancinating pains, stomach, or other kinds of pains, is simply told that he has locomotor ataxia and cannot be cured. A patient with bladder difficulty must be warned not to over-distend this organ so as to guard against cystitis. Lancinating pains and symptoms referable to other organs must be relieved, but this is very often forgotten. Patients with tabes can be materially improved and their lives prolonged by treating their symptoms, by placing them under the most favorable hygienic conditions, and guarding against the complications of that disease. All these measures can only be carried out with benefit when a diagnosis is made early enough. The earlier, the better.

**Dr. Moyer** (closing the discussion): In the presentation, of course, of a few desolatory remarks like these, I did not attempt to cover

the whole subject of tabes. I tried to bring out only the essential features of the disease.

I regard the remarks made by Dr. Kuh rather as an extension of my own than a criticism of them. The test I described is reliable and satisfactory in the majority of cases.

With reference to the administration of mercury, and referring to the remarks made by Dr. Grinker, I think I know syphilis of the nervous system when I see it. I know syphilis of the cord. I likewise know what alternatives do in cases of syphilis of the cord. I do not hesitate to give an ounce of iodide of potassium in a few days when I am dealing with these cases. I pour in my iodides in enormous quantities, and whenever mercury is indicated, I give it to them liberally. But I do not treat cases of tabes that way. In tabes I give mercury in what we might call tonic doses. Large doses of mercury are valueless. The drug should be used with care and in very small doses.

### Concerning Ciliated Subperitoneal Cysts of Uterus, Broad Ligaments and Tubes.

By Anna E. Blount, M. D.

#### Synopsis.

1. Metaplasia of flat peritoneal epithelium, and that of other serous membranes, to columnar epithelium long known to pathologists, as in little cysts among splenic adhesions, upon the epicardium, etc.

2. Some cases of ciliated cysts of the pelvic peritoneum, found and briefly noted in the Berlin Kl. Wochenschrift, by Dr. Ludwig Pick, who suggested the subject to me.

3. First similar published cases found upon the tubes by Fabricius.

4. Related work done by Robert Meyer, Max Walthard, von Kahlden, Gustave Schickele, Siegfried Menman, Muscatello, and Max von Brunn.

5. Report of cases, illustrated by drawings. Whence come these structures?

Answer: From the direct metaplasia of flat peritoneal epithelium. The embryonal property of the pelvic peritoneum, to produce cilia, is retained or reverted to, in certain cases.

#### Discussion.

**Dr. Emil Ries:** In 1897 I read a paper in Chicago on this subject, which was published in the Journal of Experimental Medicine (Vol. II, 1897). R. Meyer of Berlin in his recent paper on this subject in Virchow's Archives is kind enough to credit me with being the first one to give a full and correct explanation of these formations and quotes my views correctly.

I have since investigated this subject in numerous cases. At the time I first reported my findings I related some twenty cases. I have now at least 50 cases. It is interesting that this peculiar ability on the part of the peritoneum to produce such growths is not limited to the pelvic peritoneum. Since I have been removing appendices in the early stages of appendicitis, and have been examining appendices on numerous sections, I have found the same formations on



the appendix, even where the appendix was not attached deep down in the pelvis, so that the formations could not be said to be derived from the pelvic peritoneum. I have seen similar formations on gall-bladders I have removed, but in the gall-bladder there is peculiar difficulty in their explanation on account of a possible derivation from glands appearing under the serous surface of the gall-bladder. I have seen the same things in cases of pleurisy, on the tunica vaginalis testis.

There are a few things to be considered in connection with these formations which Dr. Blount did not mention, on account, I presume, of the shortness of time, but which I hope she will tell us something about in her closing remarks. The essayist mentioned psammoma bodies occurring in the ovary in connection with these cyst-like formations. We find psammoma bodies not only in the ovary, but in the tube where there is chronic inflammation. Whether they are only one more expression of chronic inflammation, or whether they stand in direct relation to these cysts, is interesting to find out. Supposing the papilla-like formation in the doctor's diagrams to be strangled off a little more at the base, we would then have a sort of polypoid growth. Nutrition is interfered with; we may get hyaline degeneration, and we know how hyaline degeneration lends itself to the formation of psammoma bodies.

Dr. Blount did not mention the work of Rossa, who examined similar formations, and referred their origin to aberrant adrenals. In some cases I have found a solid mass on the serous surface as large as one of the doctor's specimen's, or larger, where there seemed to be a distinct capillary loop in it, which agrees with the theory of their origin in the adrenals, but which would not agree with the formation of an endothelial bud or cyst.

I should like to hear the doctor give an account of her observations in relation to the adrenals.

Some observations have been made by Dobbert and others on what they called the formation of decidual nodes on the posterior surface of the uterus. They have described decidual nodes or nodules like these solid masses, and they tally with the description of peritoneal formations. What they called decidual buds, growths, or nodes, I would have called peritoneal nodes.

This question is interesting, because it has a bearing on ovarian pregnancy. Lichtenauer and others found decidia on the ovary, and the description of that decidia on the surface of the ovary is exactly like one of the essayist's drawings, so that it can be explained in a different way by the peritoneal epithelium. If this is not decidia, and pregnancy takes place in the ovary just the same without decidia, then the famous decidual reaction theory of J. C. Webster collapses. Dr. Webster used to consider ovarian pregnancy impossible, but it is characteristic of the strictly scientific work of Webster that he was one of the first to publish an undisputable case of ovarian pregnancy that was sent to him for investigation. He does not deny any longer

that ovarian pregnancy is possible. A number of reliable cases have been described, one for instance by Dr. Van Tussenbroeck, in Holland.

The question of the nature of these nodules, cysts and ducts is interesting also in a practical way. We speak of the line of cleavage along which we dissect out organs. What is the line of cleavage? Take an organ that has been adherent, a tube, an ovary, or an appendix, and tear it out without paying much attention to the line of cleavage, and then make sections through the surface along which it has been taken out and you will find that line of cleavage precisely in the line of this epithelium. If you make numerous sections, you can follow that along the surface of such an adherent tube. At times the line is interrupted. Farther on you find the cleft again along that epithelial line. The separation of the adherent organ becomes easy when performed along this line of cleavage.

Dr. Blount (closing the discussion): I will only answer Dr. Ries to a slight extent. The psammoma bodies, I think I stated in my paper, we found everywhere where we found these cysts, and in places where we did not there were a great many of them in the interior of the tubes, which we were examining for this purpose. We found them on the surface of the uterus and on the surface of the tubes wherever there were peritoneal adhesions. I never had any adequate explanation of them. They seemed to me to be formed around an epithelial cell as a basis very often. I wish Dr. Ries could enlighten me as to the real origin of them.

I regret very much that I omitted so important a contribution as Dr. Ries' work on this subject, and I did not know that I was repeating in part a paper that had been read here, as I am sure I never saw it, and what is still more remarkable, is that I should have omitted an American reference in Meyer's articles, which I read carefully, but perhaps I simply neglected to look it up at the time, and forgot about it. However, I am glad to know that Dr. Ries has been working along this line, and I shall be delighted to read his paper, which I shall proceed to do as soon as I can find it.

I did not follow out the adrenal theory very much although I had something in my paper about it which I did not read. It is so aberrant that I never could get it into my mind; I never seemed to grasp it as a working possibility, and so I passed it by along with some dozen other theories as to the origin of these things without saying much about them.

#### **The Induction of Labor at Term in a Case of Severe Urticaria with Edema of the Abdominal Walls.**

#### **Case of Caesarian Section. Case of Hematoma of the Vulva.**

**Effa V. Davis:** Case (1). "K. L." Primipara. Age 30. Born in Russia. Married two years. Seen for the first time in my office June 21, 1904. Family history good except for asthma in mother. Patient gave history of chlorosis and frequent headaches. Physical examination. Height about 5 feet 7 inches. Weight over 200

pounds. Organs of chest, abdomen and pelvis normal. Pregnant seven months with normal measurements of the bony pelvis.

The patient was seen frequently and urinalysis made with negative results until about August 1st, when she reported a troublesome edema of the anterior abdominal wall midway between the umbilicus and symphysis. The walls were fat and thick and the area of edema was limited to a circle six or eight inches in diameter. The patient had been on her feet more than usual nursing her husband who had been quite sick for about ten days.

A urinalysis was made with negative findings.

Calomel and jalap with salines alternately were given for the rather constipated condition reported.

Rest in bed prescribed but in spite of vigorous treatment the oedema increased and an urticaria began to appear over the abdomen which spread gradually to the thighs and other portions of the body.

The patient was sleepless with severe headaches and suffered great discomfort from itching of the skin.

Her pulse rate became high and at the end of two weeks of treatment with increasing discomfort a diminishing specific gravity of the urine and stubborn sluggish bowels I determined to induce labor fearing eclampsia or death of the foetus as the result of the extreme toxemia.

The date of the confinement had been fixed for the 25th of August. I was called to see the patient early in the morning of the 16th, and found she had passed a restless night with all her symptoms exaggerated the urticaria was spreading to the face and hands and the edema covered the whole lower half of the abdomen and had appeared in the feet and hands. Pulse 100 and irritable. I summoned a nurse and assistant and after anesthetizing at 10:40 a. m. began to dilate the cervix which had become practically effaced the patient being so near term. After manual dilatation of the cervix which took one hour and fifteen minutes a severe hemorrhage began owing to a low attachment of the placenta posteriorly.

The forceps were then applied and the head brought down firmly in the pelvis and fairly well rotated. The head was large and hard and considerable traction was required to effect its descent. The anaesthetic was now stopped and the patient was encouraged to use voluntary efforts with her pains which came at long intervals and were feeble in character.

At the solicitation of the family physician who had been asked to assist, the forceps were removed about 1:30 p. m. and the patient placed in bed with the hope that she would deliver herself. After 2½ hours effort the head remained stationary and the caput succedaneum, which had appeared early had increased markedly in size and with failing strength of the patient, forceps were again applied under anesthetic at 4 p. m. and the child delivered safely at 5:30 p. m. It weighed nine pounds and four ounces and was in good condition except for

some slight bruises from the blades of the forceps.

The mother was very uncomfortable from the rash during the following night and it increased for two days till her body was completely covered. External applications of sulphur water were used and many other lotions with little effect.

The temperature remained normal but pulse rate was high for one week when the urticaria began to fade away.

Cathartics were given with much better results than before labor and alkaline diuretics increased the flow of urine. Albumen not being present at any time.

The convalescence was normal after the first two weeks except for a scanty flow of breast milk.

The questions for debate in this case is the significance of urticaria as a sign of puerperal toxemia and whether the induction of labor was justifiable for such a condition.

I believed the mother and infant were both in danger of serious accident in this case if they had been left to nature's forces.

The presence of edema of the lower abdominal walls in fleshy women is frequently present near the end of pregnancy where the tension is great from hydramnion or a large foetus but urticaria as a sign of toxemia in pregnancy is rare. That it is a sign of toxemia cannot be doubted and involving the skin in so extensive a manner as in the case reported crippled one of the important organs of elimination to a degree that must have thrown a dangerous burden upon other organs.

The patient I considered a good subject for eclampsia owing to her age, primiparity, obesity, history of chlorosis and headaches.

The family physician thought me hasty in inducing labor when no albumen was present in the urine preferring himself to "wait for eclampsia," as he said, and then interfere but experience has proven to me many times that a serious toxemia may exist sufficient to destroy the foetus and not produce eclampsia in the mother so it was in the interest of both patients that interference was begun.

Case (2). "M. I." Primipara. Age 33. Born in Austria. Entered Chicago Maternity Hospital June 13, 1904. Date of expected labor August 24, 1904. Gave personal history of rickets in childhood and credited that disease with stunting her growth, as she grew very slowly after her sixth year. Menstruated for the first time at 17 years. Present general health fairly good, except for a mild anaemia and periodical headaches. Employment, fine needle work and embroidery.

**Physical Examination.** Height, 4 feet 5 in., weight about 100 pounds. Poor muscular development, with flat undeveloped mammae. Pendulous abdomen. Pregnant uterus well swung forward and foetus lying transversely. Measurements of bony pelvis: Anterior spines, 23 c.m.; Crests, 24 c.m.; Trochanters 28 c.m.; External Conj. 16 c.m.; Diagonal Conj. 10 c.m.; True Conj. 8 c.m.

The patient remained under observation till



she fell in labor August 29, 1904. The contracted rachitic pelvis with the patient's poor muscular development and the uncertainty of breast milk caused me to consider a Section as the best mode of delivery in this case. The growth of the foetus indicated a good sized infant even at the 7th month, and the thickened symphysis tilting outward made the true conjugate possibly less than 8 c.m. The muscular power of the woman was feeble and the pendulous abdomen already showed separation of the recti, which would have handicapped her expulsion powers in a hard tedious labor.

The induction of labor at the thirty-fourth or thirty-sixth week would have given us a delicate infant to feed artificially, which in itself is quite a proposition when the infant's life is truly taken into consideration. The case was examined by one of the hospital staff, who agreed with me that the Caesarean Section offered the safest delivery. The case was allowed to fall in labor, which she did on the 29th of August at 12 noon. The foetus was presenting by the right shoulder in left dorsal position. During the preceding week the vertex had been over the inlet, but the pelvic basin was so flaring that the transverse position was the one most easily taken by the foetus.

At 6 p. m. the patient was anesthetized. A vaginal examination revealed the cervix fully dilated. Sack of waters protruding in a long sausage shaped pouch with portion of the vertex rolling above the brim. Shoulder above to the right. With the assistance of Dr. Keyes, the house staff and Dr. Brunson anaesthetizing the abdomen was opened at 6:10 p. m. the uterus delivered and incised, vertically, cutting down on the placenta which was attached anteriorly. Child delivered at 6:30 and placenta five minutes later.

The uterus was closed by buried interrupted catgut sutures (No. 2) and the peritoneum by continuous fine catgut. The hemorrhage was slight and controlled by hot sponges applied to the body of the uterus by the assistant. The abdominal wound was closed with silk worm gut through and through sutures after uniting the peritoneum with running stitch of catgut, and the patient was placed in bed at 7:40 in good condition.

Except for some trouble with the anaesthetic early in the operation, which delayed the work somewhat the patient endured the operation splendidly, coming out of the ether in a stronger condition than most patients do from a long tedious labor.

She made an uneventful recovery, wounds healing by first intention and was dismissed well with her baby on the 23d day.

The child, a male, weighed at birth eight pounds and three ounces with the following measurements. Length 19½ inches. Head diameters: Bi-parietal 9 c.m.; Bi-temporal 6 c.m.; Sub-occipito Bregmatic 10 c.m.; Occipito frontal 12 c. m.; Occipito-mental 13.5 c.m. Circumferences: Sub-occipito Breg. 35.6 c.m. Occipito-frontal 36.8 c.m.

The mother's milk was scanty as predicted and artificial feeding was required to supple-

ment her efforts to nourish the child, but he was so strong and hardy that he gained steadily in weight while under our care.

100 State street.

Through the courtesy of Dr. J. M. Low, I wish to report an interesting accident which occurred in one of his cases recently delivered at the Chicago Maternity Hospital.

The patient, a young primipara was delivered with forceps by Dr. Low, after a tedious labor, with but a moderate degree of traction.

The patient, having become exhausted by a tedious first stage. The head remaining high, and the anterior lip of the cervix remaining thick elongated and edematous.

Directly after the patient was placed in bed she began to complain of a pain in the rectal region and it became so severe at the end of about three hours that I was summoned by the nurse to her bedside. I found a large hematoma formed in the right labia majora extending up along the walls of the vagina and distending the perineum out to the buttocks to the size of half an average foetal head. The tissues were glistening with the tension and the patient complaining bitterly. Her pulse remained good and after determining that the tension was not increasing slight pressure was applied and no treatment given except absolute quiet.

The patient gave a history of a Laparotomy, done 1½ years ago for relief of a retroverted uterus with adhesions—some small cysts of the ovaries and a diseased appendix.

Unfortunately I have not been able to get the operators history as to the exact method employed for the correction of the uterine displacement. The question of a possible fixation with forcible separation of the vaginal wall from the surrounding tissues as a cause of the hematoma is of interest.

The patient is making a good recovery without interference, the tumor having greatly decreased in size being now only about one-fifth its original size.

This paper was discussed by Dr. R. W. Holmes. (The discussion has not been forwarded.—Ed.)

**Dr. Davis** (closing the discussion): In regard to the remarks of Dr. Holmes as to the first case with reference to taking off the forceps, sometimes we do things we do not intend to do or would not do if left to our own judgment, by the presence of other physicians. In this case it was my judgment to keep the forceps on and deliver the patient, as it would have saved my time and the patient a good deal of strength. There does not seem any good reason why we should put a patient back to bed when there is any danger of eclampsia. I induced labor because I thought this patient in such danger. She had headache, was of a very nervous temperament, and shortly before this case I had one that did go into eclampsia from a long tedious labor.

In regard to the measurements of the pelvis in the Cesarean Section case, I measured the pelvis carefully a number of times, and I must say I could not get anything but ten in the diag-



onal, taking off two centimeters for the thickness of the symphysis, which I thought was enough, although it might have been a little less.

MEETING OF NOVEMBER 9, 1904.

A regular meeting of the Chicago Medical Society was held Nov. 9, at which the following program was presented.

#### Cases of Pus Infection Simulating Pulmonary Tuberculosis.

**Robert H. Babcock, A. M., M. D.:** The first case, which opened my eyes to the possibility of a person ill with septicaemia, being thought to have tuberculosis, was in a young married woman whom I saw in consultation in 1897. Two physicians of great experience and wide reputation had seen her, and pronounced the disease tuberculosis. The information at first conveyed to me by the attending doctor was in effect that the patient had a cough with high fever, and emaciation, and had been ill for nearly two months.

After noting the hot, dry skin, marked loss of flesh and rapid feeble pulse, I proceeded to examination of the chest. Nowhere was there pronounced dullness, yet both lungs were defective in resonance, the left, slightly more than the right. The breath-sounds were harsh and of diminished intensity, but without distinct rales. Nevertheless, here and there was what I should call a suggestion of moistness. The voice was too weak to produce distinct vocal fremitus. In short, the lungs were not normal and yet did not furnish definite signs of disease.

I then turned to the abdomen and discovered that instead of being thin and sunken, it was distended and appreciably resisting. Neither spleen nor liver could be palpated, and instead of hyperresonance, percussion yielded dullness of an irregular outline over the lower zone, in the hypogastrium as well as in the iliac fossi. The state of things was readily shown not to be due to free fluid in the peritoneal cavity. Here, then, was a condition that did not fit in, with what one would expect in a person having pulmonary tuberculosis. The clinical picture as shown by the height of the temperature, was not that of incipient tuberculosis, nor was it a more advanced stage of tuberculous disease, since, although the fever was severe and wasting marked, there were no evidences of breaking down of pulmonary tissue.

I considered the possibility of acute miliary tuberculosis, but reflected that in such a case there ought to be more definite pulmonary symptoms, as dyspnoea and perchance an occasional rale, or some area, however small, of distinct dullness with bronchial breathing.

Moreover, there was no perceptible splenic tumor and no appreciable involvement of bronchial or other lymph glands. On the whole, therefore, I decided before committing myself to a diagnosis to enter more minutely into the history than I had yet done. In particular I felt I must get at the condition responsible for the abdominal findings, and which, as I suspected, might be responsible for the whole thing.

The attending physician did not have a very

clear knowledge of the woman's previous health, being evidently dominated by the notion of it being a case of tuberculous disease. To make a long story short, it was ascertained that some eight or ten weeks earlier she had had an abortion, which had been followed by a foul vaginal discharge. Two or three weeks thereafter she had been taken suddenly ill with pelvic pain and fever. Although there had been an insignificant cough previously, still her real illness dated back to the abortion.

In brief I gave it as my opinion that there was no tuberculosis about the case, but that it was one of septicaemia, originating in a pelvic peritonitis, with purulent and circumscribed exudate, and that the indefinite lung findings were due to some pulmonary change resulting from her infection and feeble cardiac action. I urged the immediate services of a surgeon, who should operate if he thought best. My advice was acted upon and the operative interference, although too late to save life, fully confirmed the correctness of my diagnosis.

At a later period I was called to examine the lungs of another patient, a man, who, sliding down from a stack of hay had struck on a pitchfork, the handle of which had penetrated the anus and caused severe injury. The trauma had been neglected, or improperly treated, and a suppurative peritonitis had eventuated. In this case the lung findings were very similar to those described in the first case, general loss of resonance with feeble, rather harsh, breath-sounds, but no rales.

For a considerable time I was at a loss to explain the pulmonary findings in these two cases, but I now believe they were the result of pulmonary anaemia. Such an explanation seems in accord with the experiments of Grossman and Basch. These experimentors found that anaemia of the lungs leads to diminution and relaxation of the organs with passive decrease in the capacity of the thorax and potential increase in the excursion movements of the lungs. In a state of profound prostration, together with enfeebled circulation, as is the case in severe and prolonged blood-poisoning, the resulting pulmonary anaemia would show itself by relaxation of the lungs and a diminution of their volume. The prolonged repose in bed would produce feebleness of respiratory movements, notwithstanding the fact that potentially these are increased. Consequently these factors would lead to impairment of resonance and an alteration in the quality of the breath-sounds. It might well be, therefore, that misled by a faulty or incomplete anamnesis the examining physician might at first be puzzled to account for the pulmonary findings and might regard them as suspicious, to say the least, of tuberculosis.

The remaining three cases to be briefly narrated were ambulatory and consulted me because of symptoms, slight cough, a low grade of fever and loss of strength, which were feared due to incipient pulmonary tuberculosis.

The first case of this series was that of a senior medical student, who was sent to me by

one of my colleagues in the fall of 1902, with the request that I look over his lungs. The meagre history elicited, was of progressive loss of weight and strength, with a slight febrile temperature ranging from 99.5 to about 100.5 and of a dry, hacking cough which, although insignificant in intensity, was yet thought suspicious when considered in connection with his other symptoms.

The young man was tall and slender (5 feet 11 inches), being decidedly below proper weight (125 pounds), his chest being thin and narrow. Inspection and palpation were negative, but percussion showed rather defective resonance over both apices, especially the right. On auscultation the breath-sounds were broncho-vesicular, without rales. The temperature was about 100 F. and the pulse was about 90, of low tension. There was nothing definitely indicative of pulmonary involvement, and yet taken in connection with the general symptoms, the findings rendered me very suspicious of incipient tuberculosis.

He was advised to record his temperature carefully for a week, have examined any sputum there might be, spend as much time as possible out of doors at rest and take an abundance of milk and raw eggs. I did not see him again for three weeks, when he reported his temperature as having run about as before, his sputum negative but, because of the raw eggs, as he thought, an obstinate diarrhoea had developed. My second examination of the chest simply confirmed the original findings, while examination of the abdomen detected merely a scaphoid belly with some gurgling in the colon, but no tenderness.

He was then advised to go into a hospital where his friend, Dr. Bayard Holmes, might have him under observation. The advice was followed, and as the result the diarrhoea ceased, but the character of the symptoms led to a more thorough investigation of his case. As a consequence it was ascertained that during the month of June previous he had been ill with symptoms that indicated appendicitis. It was also discovered that he had a leucocytosis which, together with abdominal pain and tenderness, pointed plainly to some other than a tuberculous infection. The location of tenderness and pain seemed to indicate gall bladder disease, but at the operation it was found that the appendix was situated behind the lower border of the liver and was adherent to the surrounding parts and filled with pus. The patient not only made a complete recovery, but is now engaged in active practice of his profession, and is in robust health, having gained twenty-five pounds or more in weight.

The next case had to do with a tall, thin, narrow-chested book-keeper, who came to me because of stomach trouble, increasing loss of weight and strength and a dry, hacking cough that made him and his friends uneasy. Aside from the facts just stated he gave a history of an illness, nearly three years before, which he called rheumatism. Examination of the chest disclosed impaired resonance behind on

the right, chiefly in the scapular and infra-scapular regions with broncho-vesicular breath-sounds but no rales. He had a slight elevation of temperature and looked poorly nourished.

In spite of these facts I could not convince myself that the lung findings were responsible for his general symptoms, and therefore inquired minutely into the so-called attack of rheumatism. This elicited certain facts that satisfied me of the rheumatism having really been a biliary colic, which was repeated several times during a period of weeks. I therefore made a careful examination of the abdomen and had no difficulty in detecting a tumor of the gall bladder. Believing this was an empyema of this viscus, and finding that the man had a pronounced leucocytosis, I referred him to a surgeon. An operation was performed soon thereafter, which not only confirmed my diagnosis but completely cured the patient.

He was recently re-examined by me and found to have gained nearly thirty pounds, and to have entirely lost the slight dullness previously detected in the right lung. This convinced me that the impairment of resonance formerly noted depended upon the gall bladder disease. It may have been the direct result of mechanical pressure from the tumor, but was, I think, a manifestation either of pulmonary hyperaemia resulting from vagus irritation or more likely of the so-called lung reflex which Abrams has shown may result from sensory irritation as of the abdominal wall.

Irritation of the skin of the anterior surface of the belly causes a demonstrable but transient elevation of the lower posterior border of the lung on the corresponding side, and since in this case dullness existed only behind it may be, perhaps, that the presence of the distended gall bladder occasioned a persistent lung retraction with corresponding impairment of resonance.

The third case was that of a woman of 33 who was referred to me in January, 1904, because of symptoms thought, perhaps, due to some pulmonary involvement, possibly tuberculosis.

Cough was trifling, and as well as all else was ignored in the presence of attacks or rather exacerbations of pain, referred to the lower thoracic and upper abdominal zones chiefly on the right side. Her description of her suffering made me at first very suspicious of gall bladder disease. A clear anamnesis was most difficult to obtain, but at length I learned that some eight or nine years before, and soon after her marriage, she had had inflammation of the ovaries, as she said, which symptom-complex had been repeated two years ago and had necessitated local treatment.

My examination disclosed a temperature of 100.4, slight dullness with broncho-vesicular breathing in the left upper lobe, both in front and behind, and tender, slightly enlarged fallopian tubes.

Being doubtful of the precise nature of this case, but suspecting pus-tubes in addition pos-



sibly to incipient pulmonary tuberculosis, I instructed her to send some secretions from the vagina for examination and to keep her temperature chart for a week. The vaginal secretions did not show gonococci, but her temperature record was entirely too erratic and high to correspond to the changes in the lungs. Her leucocyte count, moreover, was 12000. I consequently referred her back to her physician for further examination, and possible operation, on the uterine adnexa. I have since learned that a surgeon removed both tubes and ovaries as the pyosalpinx had involved the ovaries. The patient made a good recovery, has lost her cough, and enjoys good health, with exception of shifting pains in the shoulders, which her physician regards as rheumatic.

With the foregoing cases in mind I can recall three others which at the time were regarded as tuberculosis and were sent to Colorado, but which, I now suspect, were not tuberculosis. One of them, a lad of about 15, subsequently died in the care of Dr. G. F. Gardiner, of Colorado Springs, and the other two were unmarried women in the care of Dr. S. G. Bonney. In neither of them, if I rightly recollect, were positive signs of pulmonary disease discovered, although their temperature and other constitutional symptoms were highly suggestive. Their subsequent history is not known to me.

In conclusion, I should like to dwell on the importance and value of a leucocyte count in cases with symptoms suggestive of incipient pulmonary tuberculosis, yet without distinctive physical signs. In early tuberculosis the leucocytes are likely to be either not increased or actually diminished, whereas in cases of pus infection there is leucocytosis, although this may be slight. In consumptives with mixed infection, of course, there may be an increase in the polymorphonuclear cells, but in such cases physical evidence of pulmonary disease is such as to leave no doubt of its nature.

It is unnecessary to state the value, and, as a rule, the safety of the tuberculin test in doubtful cases of the kind here narrated. It would have been resorted to, had the diagnosis not been established by other means.

The cases that furnish the text for this paper are reported not because unique, but because on the contrary they are believed to represent a rather frequent class of cases, and it is hoped that their recital may aid others in avoiding some of the pitfalls that beset the differential diagnosis of incipient pulmonary tuberculosis. We all recognize the close relationship existing between disease of the lungs and derangements of circulation within the abdominal cavity, but these cases teach how great may be the interdependence existing between primary disturbances within the abdomen and the state of the lungs apart from obvious mechanical pressure. In other words healthy lungs and normal lung findings can only be expected in healthy bodies. If in en-

deavoring to pass judgment on an individual's lungs the physician confines his attention to these organs he will find his field of view too limited to permit of a really intelligent opinion.

(This paper was discussed by Dr. Bayard Holmes. The discussion has not been forwarded.—Ed.)

## WEST SIDE BRANCH.

### Officers.

President.....John A. Robison, 297 Ashland Boul.  
Secretary.....J. J. Alderson, 264 S. Halsted st  
Delegate to Council.....A. I. Bouffleur, 100 State st

The first meeting after the summer vacation of the West Side Branch of the Chicago Medical Society was held at the Cook County Hospital, October 20, 1904, at 8.30 p. m., the president, Dr. John A. Robison in the chair.

The retiring president, Dr. I. N. Danforth, gave a short address on the work of the Branch during the past year, thanking the members for the courtesy shown him during his term of office and suggested changes that would be in his opinion for the benefit of the Branch and promote its usefulness.

The president-elect, Dr. John A. Robison, gave a short address outlining conditions in our district, our excellent opportunities for good work, urged physicians to attend and take part in our meetings, and to do their duty as citizens especially in bettering the sanitary conditions of the West Side.

The program committee having decided to take up the subject of haematology in a series of papers and demonstrations were pleased to have the study introduced by Dr. James B. Herrick.—See page 619 for Dr. Herrick's paper.

We had a pleasant smoker and social time at the close of the meeting.

Adjourned to meet November 17, 1904.

## EVANSTON BRANCH.

Regular meetings are held in Evanston each month.

### Officers.

President ..... P. D. Harding  
Secretary ..... G. W. Boot  
Councilor ..... S. V. Balderston

The Evanston Branch of the Chicago Medical Society at the annual meeting for the year elected officers as above.

The address of the evening was given by Dr. Wm. E. Quine on **The Morals of the Medical Profession.**

Dr. Quine emphasized the fact that the profession in general seemed to consider a breach of the code a greater sin than drunkenness, sexual immorality and carelessness in the examination and treatment of the sick. He suggested that it would be well to pay less attention to differences in creed and more attention to the moral state of physicians who might wish to join our medical societies.



### NORTH SIDE BRANCH.

Regular meetings are held monthly. Membership .

#### Officers.

President ..... David Lieberthal, 103 State st  
Vice President... Chas. I. Whalen, 34 Washington st  
Secretary ..... R. H. Herbst, 517 Dearborn ave  
Delegate ..... R. W. Holmes, 387 N. State st  
Alternate ..... C. S. Williams

The first regular meeting of the North Side Branch of the Chicago Medical Society was held Thursday evening, Oct. 20, 1904, at the Chicago Academy of Sciences.

The officers above named were elected for the ensuing year.

**The treatment of Puerperal Fever by Hysterectomy** was discussed by Drs. Carl Wagner, Anthony, Holmes and Thompson.

Dr. Williamson reported a case of **Acute Hemorrhagic Pancreatitis**.

### NORTHWEST BRANCH.

Regular meetings held the first Friday evening of each month at the Northwestern University Settlement Building, cor. Noble and Augusta street.

#### Officers.

President ..... H. M. Luken, 826 N. Irving ave  
Vice President .... R. S. Michel, 689 N. Robey st  
Secretary-Treasurer.. E. E. Henderson, 201 W. Erie  
Councillor ..... J. V. Fowler, 312 Grand ave

The regular meeting of the Northwest Branch was held Friday evening, November 4th. There were thirty-two physicians present. Dr. E. A. Fischkin read a paper on the **Diagnosis of Cutaneous Syphilis** and demonstrated a number of cases. He also exhibited a great variety of photographs of cutaneous syphilis in its many forms and other cutaneous diseases it is liable to be mistaken for. The paper was freely discussed by a number of the members. It was decided that the next meeting be devoted to the treatment of syphilis.

### SOUTH WESTERN SECTION OF THE CHICAGO MEDICAL SOCIETY.

Regular meetings are held monthly at 540 W. 63d st. Membership 70.

#### Officers.

President.....F. L. Rose, 5420 S. Halsted st  
Vice President.....J. .... Wier  
Secretary-Treasurer..C. H. Lovewell, 5500 S. Halsted st.  
Official Reporter, T. C. McGonagle..5504 S. Halsted

At a meeting of the Southwestern Section of Chicago Medical Society, held Tuesday evening, Nov. 1, 1904, Charles H. Miller presented a case of **Syphilitic Rarefying Osteomyelitis**.

Mr. President and Colleagues—Fractures, spontaneous in origin, and by this we understand those due to violence insufficient to break a bone of normal strength, may be due to general causes:

(a) Atrophic changes which in turn may be caused by disuse or trophic changes due to nervous tissue disease in the former, with gradual uniform disappearance of the inor-

ganic and organic bony material in the latter to unusual absorption of the calcium salts, and is especially frequent in locomotor ataxia, appearing before the incoordination and in general paralysis.

(b) In old age, due to disproportion of inorganic and organic substance.

(c) Rickets, due to increased thickness of epiphyseal cartilage and deepest layer of periostium. Green stick fracture and epiphyseal separations are the variety here met with.

(d) Osteomalacia. In this the compact tissue softens and disappears, the haversian canals and medullary space grow larger and larger. In the severer forms but a shell of osseous tissue remains thin as paper and filled with reddish pulp, the whole unable to bear the slightest strain.

(e) Fragilitas ossium, or an inexplicable condition in apparently otherwise normally healthy individuals when the bones both fracture and unite easily of locally acting causes.

#### Inflammatory Conditions.

(a) Osteomyelitis involving the periostium or the medulla, the result of infection—where the processes of destruction are more rapid than those of repair—have been known to occur from rarefying osteitis, gradually eating away the interior of the shaft without any compensating deposit being formed on the exterior.

Caries involving the shaft of long bones of this character is so infrequent as to be of little importance, the seats of predilection being the ribs and odontoid process.

Periostitis rarely causes fracture per se when the simple infectious variety is considered.

(b) Malignant growths, especially sarcomata of the central variety less important are metastatic carcinomata, which might readily be overlooked, especially if the primary lesion is a scirrhus of the breast. Apart from the local disease there is no evidence that the general cachexia of these diseases involves the integrity of the skeleton.

Enchondromata, cysts and aneurysms are less frequent locally acting causes the latter from pressure absorption.

(c) Syphilis may induce local caries, but much more frequently it is due to the gummatous infiltration of the periosteum and bone. In hereditary syphilis this is peculiarly likely to appear late after the sixth year and may develop late after the twenty-first year, and are prone to involve the upper and lower extremities. Histologically the gumma are soft bodies from microscopic size up to several centimetres in diameter. On cross section they show a grayish white homogeneous appearance, presenting in the center a caseous substance and peripherally a translucent fibrous tissue which is composed of granulation tissue formed of rounded cells. Owing to insufficient blood supply the developing tumor undergoes coagulation necrosis and breaks down to be either absorbed or, if superficial, to ulcerate.

The following is a description of the case I desire to present:

Mrs. X., 30 years of age; 1 healthy child 10 years old; no miscarriages; F. H. negative.

First consulted me in the summer of 1902, for what was thought to be a sprained ankle, of which she had the symptoms and had actually hurt her foot on alighting from a car; usual treatment, including a steel instep, proved unavailing. Absence from the city now for a year caused me to lose sight of the case, but the trouble increased, and she has been under treatment ever since. So this may be regarded as the date of onset or at the time she was 29 years of age. Complaint when I next saw her, June 17, 1903, was pain in right leg marked lameness, simulating the gait of unilateral hip dislocation; lost 15 pounds in past year; weight now 120 pounds; pain in leg grows worse as well as locomotion more difficult.

Examination, some emaciation—acneiform eruption on face and back; marked tenderness over isolated areas of the crest of both tibia and right humerus at junction of upper and middle thirds; pain and tenderness evidently in the bone. Patient states feet swell somewhat, especially at night, occasionally enough to pit; walks with the peculiar gait previously described, but patient is hardly able to say why she limps; has slight goitre which has never caused any trouble; blood HGBN 90%; corpuscular elements normal; genitalia and their functions normal; chest normal; urine normal.

Diagnosis: Tertiary lues; osseous gumma of humerus; right femur left tibia and both patellae.

Treatment: Mercurial inunctions daily; K. I. internally, 60 grains daily.

July 18—Walks better; feels improved; mentally more hopeful.

July 24—Stumbled in going down short flight of steps and, though caught by husband, so she did not fall, suffered fracture of right humerus at junction of upper and middle thirds and right femur at same location; this occurred at South Chicago. Removed by ambulance to hospital where, under CHCL<sub>3</sub>, fractures were reduced and the leg put up with extension; taken home three weeks later; leg and arm in plaster; apparently uniting normally in about the usual time. She went walking first with crutches, later discarding them; treatment maintained. About the middle of February, 1904, all symptoms became aggravated, especially the walking was poorer and strength in limbs was less; the arm remained normally strong. During the period the patient complained much of gastric disturbances and headache, which she attributed to the medicine. The fracture healed with 3 cm. shortening.

April 20th, when attempting to sit in a chair, the thigh gave way at site of previous fracture, apparently due to muscular action, as there was no violence. Under CHCL<sub>3</sub> it was reduced and put up with extension. May 17th extension removed and cast adjusted; medication continued but K. I. increased; somewhat intermittent inunctions employed. Again this fracture seemed to unite fairly promptly, but with about 4 cm. shortening. About June 1st she was allowed to use a wheel chair into

which she could transfer herself without using her limbs.

June 13th, in attempting to get from her chair to the bed, owing to some slight miscalculation, some muscular exertion was enacted, with the result that again the thigh was fractured at the same place, and the left leg at junction of lower and middle thirds also gave way completely (a point of maximum tenderness). Both fractures occurred without injury to soft tissues. Again under CHCL<sub>3</sub> splints and extension were arranged, the patient now requiring a fracture bed to render possible proper hygienic care.

Again they united fairly promptly, though the patient was kept in bed twelve weeks or, on account of great fear of other fractures, for two months. She has again been using the wheeled chair.

Status praesens; site of fracture right arm palpable; function normal; right leg 5 cm. shorter than left. Tender nodes on crest of the tibia, which are tender to pressure, and which on pressure may be depressed, showing softening underlying the rigid crest. Left leg, same condition, is present, but more marked; this pressure is painful and the pain produced by such examination persists for some hours. Both feet swell to the point of pitting on pressure; more marked at right but does not wholly disappear by morning; general health is good; is believed to be gaining in weight somewhat. The urine is normal and no cardiac signs of disease have been discovered.

Latterly there has been increased frequency of menstruation, the function reappearing about every three weeks. This was thought to be possibly due to her medication, as she has for weeks been taking about 200 grains K. I. daily. The other treatment has been the intermittent use of mercurial inunctions and recently syrup of hypophosphites.

Besides Dr. Miller's paper, Dr. Wier showed a case of lupus erythematosus in a woman, which had resisted all treatment for ten years, but which yielded very promptly and completely to the X-rays; also a case of lupus vulgaris in a man which the doctor told us was growing rapidly less under the use of the X-rays.

Dr. Lespinasse demonstrated a new operation for phymosis.

Dr. Miller gave notice of a proposed change in our by-laws which will be voted upon at our December meeting.

President Rose appointed the following banquet committee:

Drs. Morton, Lovewell, Jr., and Wier.

There was an attendance of thirty-two members and a number of new faces were seen.

## CHICAGO PEDIATRIC SOCIETY.

### Officers.

President ..... S. J. Walker, 394 E. Chicago ave  
Vice President...F. S. Churchill, 394 E. Chicago ave  
Secretary-Treas. Emma M. Moore, 6025 Prairie ave  
Member of Executive Committee...A. C. Cotton,  
1485 W. Jackson Boul.

A special joint meeting of the Chicago Medical and Chicago Pediatric Societies was held September 17, 1904, in honor of Dr. Escherich



of Vienna, who addressed the meeting on the subject of **Tetany**. A second special joint meeting of the two societies was held September 28, 1904. Dr. Wm. P. Northrup, professor of Diseases of Children, Bellevue Hospital, New York, read a very interesting paper on the **Diagnosis and Treatment of Pneumonia in Infants and Young Children**. Dr. Northrup predicts that in two years the treatment for pneumonia will be cold, fresh air and cold water.

The first regular meeting of the Society for the year was held October 18, the subject of the evening being **Summer Diarrhoea**.

Dr. A. C. Cotton and Dr. Julia D. Merrill gave a review of the literature on **Summer Diarrhoea**. A paper, entitled **Some Bacteriological Observations in Summer Diarrhoea**, was read by Dr. George H. Weaver.

Dr. May Michael and Dr. Bathena Coone gave a clinical report of 114 cases of summer diarrhoea.

Dr. J. C. Cook reported 18 cases and 10 cases in which the anti-dysenteric serum had been used were reported by Dr. Wm. J. Butler.

Dr. May Michael was elected to membership and the name of Dr. Josephine Young was proposed for membership.

Adjourned on motion of Emma M. Moore.

#### PHYSICIANS' CLUB OF CHICAGO.

The first meeting of the season was held by the Physicians' Club of Chicago at the Sherman House on the evening of Thursday, October 20. The first part of the program consisted of a beefsteak dinner. The subject of the discussion following was "Unionism; Is It Adapted for the Medical Profession?" A reporter for an evening paper had obtained an inkling of the purport of the subject and, without seeking enlightenment from any officer of the club or, as far as known, of anybody else, proceeded to write a "story" about the purpose of the doctors to form a union with the advice and under the tutelage of Mr. Michael Donnelly, President of the Butchers' Union. Pursuant to its custom, when discussing sociological subjects which have more or less of interest to members of the medical profession, of inviting people to participate who are supposed to know something about such subjects, the board of directors had invited Mr. Donnelly on the one side and Mr. John M. Glenn, Secretary of the Illinois Manufacturers' Association, on the other, to address the club. Dr. Alfred C. Croftan and Dr. George F. Butler, members of the club, also gave addresses. Dr. Henry Baird Favill had promised to preside but, at the last moment, sent word that he was delayed by a late train and could not reach the city in time. His place was ably filled by the Treasurer, Dr. Joseph Zeisler. Mr. Donnelly was unavoidably detained in Cincinnati by union business and sent his regrets. Although many feared that they would have to listen to the play of Hamlet, with Hamlet left out of the cast, yet the other principal speakers and the

spicy discussion made the evening interesting to those who attended.

A report of the proceedings follows.

The chairman, Dr. Zeisler, introduced Mr. John M. Glenn, Secretary of the Illinois Manufacturers' Association, who read an address.

Views advanced by me tonight are entirely personal and in no way reflect the policy of the organization with which I am connected. I take it you gentlemen who compose the medical fraternity are serious in requesting the discussion, and that you really want to know if there is anything in unionism that can be of legitimate use to the medical profession in effecting an organization.

The question that immediately presents itself is, What is your object? Do you all want to get on the same equality? Do you believe in the theory that the man with the greatest intelligence, with the greatest development of mind, with the greatest energy and the capacity for making money should hold back for the man less favored with intellect and less willing to exert himself? If the purpose you have in mind is to do good; if it is to progress; if it is to elevate your standard and if it is to do something for humanity, then it is my judgment you should organize—form a union. On the other hand, if it is to see how much money you can make for the least possible effort; if it is to see how large a practice you can have on the least possible application and study; if your object is selfish and for the aggrandizement of yourselves, then I say for heaven's sake abandon the idea. The medical profession of this city has produced too many great men—men who have advanced the cause of humanity and have made wonderful discoveries, and whose hearts have been filled with love for others and a desire to do good for gentlemen to take a step backward.

It is just a little surprising that you should invite this discussion, as unionism has not made sufficient progress to be the example of men who are supposed to have the education, learning and judgment that should be possessed by the average physician.

The great conflicts that the union has waged during the past two decades, it does not seem to me, warrant you in turning your faces to the bloody battle fields upon which it has fought or look to the desolate homes and broken hearts and countless graves for a foundation upon which to build your organization. It may be argued that all the sorrow and all the distress that has been brought about by the countless strikes was necessary in order to reach that peaceful state for which all are striving. I'm willing to admit that there are honest men in the union whose purpose is noble and who really believe the good things it is said are in store for those who will put unionism ahead of every thing else that is dear can be attained by the present policy. The great religious and civil conflicts of the world may be pointed to by way of illustration to sustain this position, but the greatest man this age has produced, Abraham Lincoln, used all his power and all his strength of character to



settle the issue over which the two sections of the country were contending without the loss of blood, and his policy was the subject of the most severe criticism from people who should have known better and who all their lives had been preaching love one another. I believe that if the country had allowed Abraham Lincoln to have had his way the Civil War might have been averted and that a million lives would have been saved, and God alone knows how much suffering would have been prevented, to say nothing of the millions of dollars worth of property that was absolutely wiped out.

To get down to the real facts regarding unionism it is my judgment it needs a higher order of intelligence. You immediately say that is true of capital. I'll grant it, but in nothing like so great a degree as the other side, and I want to call your attention to the fact that capital spends millions of dollars every year to raise the intelligence of the community in the money it pays to maintain the educational system. There is no question but capital is cold, but capital is timid. Capital is never the aggressor in a controversy with labor. I don't believe the union will permanently succeed under the present policy that seems to be supported by a majority of its leaders. I believe its only hope of success is in intelligent and conscientious action.

The union proceeds along the line that all its members are of equal intelligence, and that all have equal ability to perform their work. It seems to me this theory will hold better in unskilled labor than in skilled, and I think experience has proven it, and that the theory will even hold still better in skilled labor than it will in the professions where the measure of service is brains. Surely the man who studies and works and toils by night and by day to attain skill and knowledge does not want to place himself on an equality with the men who has not the mind, or who does not want to put forth the effort, or who has been so unfortunate as not to have had opportunities.

There is one thing for which I do not believe it is right to entirely condemn the union, and that is the conduct and leadership of some of its officials. There is nothing so dangerous as organization in the hands of an unscrupulous man, and from my observation there is no kind of an organization in which it is so easy for an unscrupulous man to blaze his way and eventually obtain the scepter. The labor union has to carry more dead weight; it has more drones in its camp; more men who are ready to prey upon the prejudice of others than any other class of organization. We all know that the church, the organization which is based on unselfishness and love, and through which men are supposed to reach the eternal goal of everlasting happiness, has disciples among its followers who are designing and deceitful.

History of unionism shows that it is intelligence that succeeds. The greatest union organization that has yet been produced is the Locomotive Engineers. I do not remember the technical name of it, but it has not had over

two strikes in the half century of its organization. Its men are of a high order of intelligence. They have, with the exception indicated, always been able to adjust their troubles. Now it is true that it is not to be supposed that all men in other lines of trade are at once to be advanced to the intelligence of engineers or other classes of railroad help, but I want to ask, Has the American Federation of Labor ever done anything to advance the intelligence of the Union? It may be that it has, but if so, it has never been brought prominently to public attention. I am informed it is today spending over \$20,000 a month in organization alone.

Just here I want to call your attention to another thing that seems to men to be an awful sin of unionism. I refer to the cultivation of a spirit of unrest, disloyalty and dissatisfaction that is bred in a factory that is under the domination of the union. Will you tell me how a man can make a plant go if the men who are working for him are disloyal? Can you make money if every man is doing as little as he can and hold his job? If a man does not like his place, if he does not like his surroundings, if his pay is not satisfactory, why doesn't he get out? If he gets out he has a right to talk. Some people seem to think a corporation or an individual is operating a plant simply to furnish work for a lot of people. Let me tell you that any one that has that idea is mistaken and any one who thinks capital can be made to work along other lines than cold business principles might just as well try and reverse the sun. If capital is not employed profitably in any particular branch of industry it will abandon that industry and one field of employment now open to the laboring man will be closed to him. There are enough obstacles in the way of business success to cause the intelligent labor leader to hesitate to add to the employer's difficulties by trying to force him to carry on his business on other than sound economic principles. An honest man will handle capital honestly and a man that won't handle it honestly will be made to do so by the laws of his country or he will be punished. Every time capital gets over the line you hear of legislation.

It is much better policy, in fact it is just as good policy for capital to treat its employees right as is the old adage, "Honesty is the best policy."

Now there is one other thing to which I wish to call your attention and that is the right of every man to work whether he is a union man or not. This question involves the eight-hour day and it involves the foundation upon which we all must stand—the observance of law. This country, to paraphrase Mr. Lincoln, will not long endure if either capital or labor disregards its laws and if both unite in a disrespect of law it will quickly crumble. The law must be obeyed and the people should see to it that every man who disregards it is held to a strict account. As to the eight-hour day an employer has a perfect right to give it if he can afford it and every employer or set of employes have a right to get it if they can, providing they don't "bust" the shop, or disobey the law. I don't believe any man ever succeeded who made up his mind that he would not work to exceed any given number of hours per day and I don't believe any phy-

sician will ever succeed who when he is building up his practice makes up his mind he will not make night calls or make a call unless he is sure of his money. No man ever made a great success in any calling in life that did not work, work, work. There is nothing that counts so much as everlastingly sticking to the game. In the great industrial world and I mean the factory, the transportation companies and the farms you will find men in command who started at the very foot and many of them were men who belonged to the union, but never one who had an eight-hour badge pinned to his breast.

Unionism under the leadership of some of the men now in the saddle is practically treason for the reason that they place obedience to the demands of the union above obedience to the laws of the land. Under these leaders it has been observed by all that when the law of organized labor comes in conflict with the law of the land organized labor's position is that the law of the land must yield. Many have been prone to overlook this phase of the case because they have felt that it was due not to an active belief in treason but to the ignorance both of the leaders and the rank and file. At least it is charitable to state it that way.

It is strange that the other labor organizations do not learn a lesson from the Locomotive Engineers. Could a more liberal or broader stand be taken than was taken by the engineers when the question of the open shop came up in a recent controversy with the Manhattan Railway in New York? Here is what they said to the officials of the company when the question of employing non-union labor came up:

"We believe that every man should have the right to work under any and all conditions. We do not object to you employing non-union engineers nor do we object to working with them, but as an organization we request and desire our agreement with you to read, that non-union engineers shall receive the same wages in every particular that we do."

I hope that I have not been too critical and that I may have said something in this paper that may be of value. I believe that good can come of unionism and I believe it is every one's duty to help his fellow man all he can, but it does seem to me a step backward for the medical profession of this city to model its organization on the foundation of unionism, when unionism has fallen so far short of the standard.

**The Chairman:** I believe I speak for those present when I say that the idea of forming a medical union was not seriously entertained by this Club when we put this subject on the program for tonight. We have to have some subjects that will give us a little fun, and I can confidently say that the time when physicians will form a union is far distant.

We shall all be glad to hear from Dr. Croftan as to how he feels on the subject.

**Dr. A. C. Croftan** (from the stenographic report): When your Committee honored me with a request to open this discussion, I assured your Secretary that the only position I could defend would be "Why the Medical Profession Never Should be and Never can be Unionized." I re-

gret the absence of Mr. Donnelly, because I was anxious to base my discussion upon his exposition of the advantages of unionism for butchers. As it were, I will have to imagine what he would probably have said, and speak somewhat disconnectedly, because there is no testimony that I can attack in rebuttal.

A union, as I see it, is a combination of many individuals possessing the same qualifications and following the same pursuit; its object is mutual benefit for all the members composing the union and the advancement of their common welfare; by implication the idea of offense and defense against those outside of the union is also conveyed. The notion of defense implies antagonism, and a struggle with opposing interests. In fact, without such opposition, there would be no need of banding together for strength, and hence the opposition, passive or active, to the individuals forming the union is the chief *raison d'être* of unionism.

The question arises, is there sufficient opposition, sufficient antagonism to us physicians, as individuals or as a class, to warrant our banding together for our mutual benefit and for common defense? On first sight, it would seem almost ridiculous to assume that the people at large, whose physical well-being is professedly in our hands, and who turn to us when suffering, should entertain against us any feeling of antagonism, but if we carefully analyze the attitude of the public towards the doctors, we will find that it is not one of unqualified respect and admiration throughout, and by no means one of unmixed gratitude and unreserved confidence. Many people take a weird delight in claiming that they "fooled the doctors." They don't always praise us for what we do, and have even been known not to be backward in upbraiding us, even of refusing to pay their bills. I think the attitude of the public at large toward the medical profession can best be characterized as one of **amused suspicion**.

This attitude of individuals, while displeasing and not infrequently insulting, and occasionally unprofitable, is nevertheless not dangerous as far as the welfare of the profession as a whole is concerned, until it takes the form of active opposition on the part of legislative and judiciary representatives of the people at large. There is a growing tendency for legislative bodies to formulate laws inimical, or at least not favorable, to the best interests of the profession, and it is notorious that judge and jury are in the majority of cases *a priori* prejudiced against the claims of a doctor. We all know how difficult it is for a physician to secure an impartial jury verdict in medical suits. We all know of at least one judge in this city who is practically on record as never allowing a physician the fee he is forced to sue for. The press, finally, the exalted voice of the people, and the moulder of public opinion, how they delight in distorting the truth when it comes to matters medical!—largely, let us concede in justice to them, from ignorance, largely because they are so coached by eminently respectable members of our own guild, largely because they must have a sensation at any price, in order to sell enough papers



to induce patent medicine venders to advertise in their columns.

The important questions now arise: (1) What are the causes underlying this peculiar attitude of the people at large, that I am convinced exists? (2) What is the remedy—and is this remedy a Union of doctors?

The first thing to determine is whether the cause is inherent in the people or in the medical profession; and if in the latter, must the fault be attached to doctors as individuals, or must it be sought for in the inherent defects and limitations of the practice of medicine?

I am going to take the gentlemen of the laity, the common people who are here tonight, deeply into our confidence, and I am going to concede that the public is not guilty, and that the fault lies in part with us as individuals, in part with the practice of medicine as such, with all the absurdities and inconsistencies that still cling to it. For after all the practice of medicine, as we may read in the latest and largest French Encyclopedia, is "an art based upon conjecture," and the physician is one "who sometimes cures, often relieves and always consoles" (I doubt whether our patients would be willing to pay for consolation at three or five dollars a console.)

I think it is time that we should teach the people to divorce the practice of medicine from all the mysticism, all the semi-religious flim-flam, all the bluff, all the conscious and unconscious lying and deceiving that has clung to it for all these centuries. We owe the people a square deal. We need not put it to them brutally, because they probably would not understand, and might shy off in still greater numbers than they do now to the fakirs and divers pathists; and to the Christian Scientists and the Dowieites, who pray for them and prey on them outside of our ranks. But we could break the news gently, could predigest it, sugar-coat it, and make it pleasing to the taste; and I think that is what we are beginning to do.

No, the people are not to blame. The practice of medicine is full of conventional lies; the people are beginning to appreciate this, and refuse to be lied to any longer—even conventionally. The trouble with us is that, to use a business expression, we fail, in the majority of cases, to "deliver the goods," and that nevertheless we receive pay for what we contract to deliver or at least what our patients *think* and are led to believe we agree to deliver. It is in this particular that our profession differs radically from any other profession or business. A client employs an engineer or an architect to repair a broken bridge or reconstruct a dilapidated building; the damage is inspected, a plan of repairs with all specifications submitted, a fee agreed upon, the job let to the lowest competent bidder, and the work done; when the transaction is closed the bridge or the building is repaired; the "goods have been delivered." How different it is many times with us. A patient comes to us with an organic lesion of the heart, or some degenerative disorder of the nervous system; we know perfectly well that the damage itself is beyond repair; and still we must undertake the case

with a full consciousness of our limitations, and however much we may regret these limitations, we rarely take the patient or the family fully into our confidence. We cannot very well do it, because the human element enters so strongly into our work; we *want* to help, and we don't want to confess even to ourselves, much less to the suffering, afflicted mortal, who looks to us for aid, how little we can do. The engineer would say, "Throw the thing on the junk heap and get a new one," but we can't say that to a man whose wife is sick!

So much for the competent practitioner who can diagnose his cases, who realizes the limitations of his art, and who, for reasons of humanity, does not tell the truth. He is, further, often deterred from being quite open with his patients by the knowledge that they will turn from him, who is honest and open and who *knows*, to one who is untruthful and crafty, even though he does know, or who is ignorant and hence blissfully hopeful and willing to promise anything, in order to pocket the fee and to take full credit if by some chance the case recovers. In the latter case the honest physician, who has made a guarded prognosis, is held up to ridicule; he has been "fooled," and the blatant ignoramus who made a good guess is extolled as a wonderful physician, "who pulled the patient through." I have often wondered whether we more often reap extravagant praise for cures we didn't perform or whether we are more often execrated for sins of omission or commission that we did not perpetrate.

You see, therefore, gentlemen, that two elements enter into this conventional lying that the people are beginning to resent—on the one hand, the human side that induces us to hide the limitations inherent in our art; on the other hand, the craftiness or the ignorance of many of our colleagues, who would for gain surely neutralize any educational effects exercised by us upon the lay mind by open and honest statements.

Now, what is the remedy for this unsatisfactory state of affairs? How can we and the public who employ us work harmoniously together, so that there may be no misapprehensions, no false pretenses, no bluff, no dishonesty, no conventional lying between physician and patient?

For only in this way can the opposition of the people to the profession, and the heart-breaking discontent that has possessed itself of the soul of many an honest and honorable physician be stopped. Can a Union of doctors accomplish this, or a Trust perhaps? Decidedly not.

The reform must begin with individuals among us; "ideals must become personal before they can become communal." Herein lies the fundamental difference between Mr. Donnelly's butcher workmen, or any other trades people, and the members of a liberal profession. The former all perform the same work in the same way; for instance, they rip the bowels out of a cow—one man can do this as well as another, and all differences in skill can be adjusted in such a manner that the standard of the least skilled becomes the universal standard. If Mr. Donnelly's men are working



for \$2.00 a day, and get the notion into their heads that they should receive \$2.10 for disemboweling a certain number of dead cows, why then they are perfectly justified in trying to enforce that demand—and to unionize for the purpose, if that is the best way to do it. In other words, they form their own estimate of the value of their services and they attempt to force this estimate upon their employers. And, let us bear in mind, they certainly deliver the goods—those cows have their bowels out when Mr. Donnelly's men are through with them.

Not so with us—unless we choose to except the surgeons—not so with the medical man. He can't **agree** to cure his case, consequently he can't put a fixed value upon his services, nor ram his own estimate of what he **thinks** he can do down his employer's, i. e., patient's, throat. On the other hand, he never wants to feel that he can't do a little better than his competitor, he does not want to be judged by the standard of the least trained, least skilled, least competent of those qualified (?) to practice medicine. His standard is not the lowest, but the highest. A physician should be and usually is an individualist, his patients want **him**, not any doctor, and the estimate he can place upon his services is altogether governed by the laws of supply and demand, as far as his particular, personal services are concerned, not as the services of doctors as a class may be rated!

One feature of unionism appeals to me, and I consider it applicable to us. I believe in limiting the apprenticeship, limiting it in the sense that we make the entrance into the profession of medicine difficult. Let no one be consecrated a minister to the sick unless he be duly qualified by training, by education, to recognize and to understand disease and to manage the individual afflicted with disease. He should first thoroughly understand the technic of his work. Let him not, however, be a mere practitioner of medicine; let him be a treater of the sick, a man of tact, a man of honesty, and a gentleman. I am a great believer in the element of **adaptability** as an entrance requirement into any profession; in the university career, in the diplomatic service, and in the army and navy career, this point is very seriously considered. Why not in the medical career?

I believe, furthermore, in a united profession with a central autonomy vested in a Court of Honor that should be national in scope; a tribunal before which can be hailed the unscrupulous and the incompetent alike, a body that must qualify and may subsequently disqualify a physician; a body with power to restrain and disbar and publicly brand as unworthy members of our profession, those who stoop to venal commercialism, the givers and the takers of commissions, the writers of decoy letters, and all those who utilize the newspapers for blatant self-aggrandizement—also the unscrupulous surgeon who, for the sake of the fee, opens an abdomen for gastric crises in locomotor ataxia, or removes a healthy appendix—in short, a body intended to elevate and to hold up the standards, to give publicity in medical matters

when it is to the best interests of the profession and the public, and to impose secrecy when the honor and the standing of the profession demand it.

With a clean and competent and honest, but of necessity limited, number of men, constituting our profession, with a central governing board high in the esteem of all, there would remain for us the chief task to be carried out that alone can improve our usefulness to the community at large, and to ourselves.

I mean the increase of medical knowledge, the combating of that tendency to therapeutic nihilism that continues to emanate from the State of Maryland and other localities along our Eastern seaboard, and that casts the blight of its sterile skepticism over all this land. Given peace among us and good-will to all men, and the horrid and exhausting chase for the "damned guinea" will no longer have to be so strenuous nor so grinding; we will all have enough to live on, and in addition enjoy the inestimable satisfaction, that should compensate us for many material deprivations, of belonging to an honored and an honorable profession. We would then find, all of us, more leisure and more inclination to prosecute original research at the bedside and in the laboratory, and above all to cultivate therapeutic resourcefulness and thus be enabled ultimately to really more often "deliver the goods" our patients clamor for.

We as physicians, who are in daily contact with the sick, who are painfully awake to the need of new light on a thousand clinical problems, could then assume the task of experimental clinical research that we Americans are temperamentally so eminently fitted for. The more imaginative, the more inventive among us would surely solve many problems that are crying for solution. Nearly every **great** medical discovery has been made by a practitioner of medicine and not by any of your cloistered incumbents of a university chair, whose horizon is circumscribed, who are not in contact nor in sympathy with living problems, who are capable only of pin-point concentration on some specialty. We physicians must attack the problems seriously, that for the present are being played with by a small army of half-trained research fellows under the guidance of a few capable specialists of the above type, and of some medical men who never did nor never inspired any research work, but whose social or official connections have enabled them to secure the endowment of research institutions where science is "fostered" officially by our honorable multi-millionaires. Little of value has ever emanated from such institutions; what they need is fewer buildings, less real estate, less of the flabby complacency of mediocrity—more or the driving discontent of talent; more brains! Unfortunately the more virile thinkers on this side at least of the Canadian border are not attracted to places where much independence must be sacrificed to the glory of a millionaire in steel or oil.

All this will be changed, I hope, some day. We will have a **united**, but not a unionized,

profession—free, liberal, honest and honorable; each member carefully chosen, in touch and in sympathy with the people, holding high the banner of Humanity, and of Science, and governed by a code of ethics that shall not be stilted nor artificial, but that shall be synonymous with the tenets of that ancient and honorable, aristocratic, international **Brotherhood of Gentlemen!**

Dr. George F. Butler, for the past five years a non-resident member, but now happily returned, also read an address.

The trade union is a survival of the old guild, the three stages of which were apprentice, journeymen and master of workmen. The same stages were observable until quite late in the nineteenth century in various branches of the English-speaking medical profession. Of these degrees, Marryat (Japhet in search of a father) and Lawson Tait give interesting and humorous accounts.

The three stages in the medical profession were the apprentice (of which the survival to-day in the preceptorship exercised over the medical student), the journeymen, which survive in the licentiate, master and bachelor, and, finally, the doctorate, which gave the right to teach.

Useful as these stages or degrees were, the undue necessary increase of medical colleges in the United States caused their practical disappearance. The New York County Medical Society, incorporated in 1806, still retains some traces of the supervisory powers of the old guild. The medical societies of the eighteenth century, beginning with the New Jersey Medical Society of 1766, still more resembles the old guild.

Some of these guilds still survive in English-speaking countries, but have become merely parasitic, although in London they rule the old city by electing the Lord Mayor at Guild Hall annually.

With the advent of the speculative middle man, the rigid apprentice system and the pride in skill of the old guild were destroyed, whereupon the medical profession as a body, which has always been opposed to purely commercial practices, broke off from the other guilds. In the medical profession, however, at no time could the hours of labor and their termination abruptly be regulated by purely monetary consideration, nor at any period was the medical guild as regards the public "a servant grafted in my serious trust and therein negligent," a la plumber. The medical profession in its attempts to establish a standard of fees has followed in the footsteps of the old guilds, but therein has met with no greater foes than the trade unions, which hold fee regulation as an ideal, and a principle. Most trade union members in English-speaking countries outside of the United States, as well as in Scandinavian, Italian, French and German-speaking countries, are members of mutual benefit organizations who employ what might be termed a "scab" doctor, and pay starvation prices for medical services, medicines included. Although American unions war on plutocratic monopolies, they support medical institutes advertised in the

daily press, wherein broken-down "scab" physicians are "sweated" for the financier at the expense of the public, and of the regular medical profession. The workman who demands from twenty-five to fifty cents an hour for himself supports the "five-dollar-a-month-no-cure-or-money-refunded" charlatan, who is hired by banks or wealthy speculators.

The same non-union spirit in unions appears in their support of grafting politicians at the expense of medical men who are fighting for starving working people in charitable institutions.

In 1885, the Chicago medical profession made an onslaught on the "stockyards hogs" and other vile food furnished the insane by the stockyards combination (see special report, Illinois Board of Charities, January 28, 1888). The representative of the combination was a "Knight of Labor." When the female assistant physician held up during an investigation by the County Board the iron-ringed, catarrhal snout of a pig as a sample of the food given the insane, the distinguished "Knight" directed the discharge of the physician and the retention of the cook. This "Knight," it is said, objected to a contract for court house repair because the contractor employed convict labor, whereupon a new contract was made which gave the aforesaid contractor \$30,000 for taking down certain pillars, and \$40,000 for letting them alone. Such a "representative" has not infrequently been popular in trade unions, particularly in New York, but no such member of "Boodle's patriot band.

Fat from the leanness of the plundered land," ever appeared in the leaders of medical societies. If it is desirable to unionize the medical profession, it might first be well for union labor to support the union principle of fee regulation, by withdrawing patronage from advertising charlatans, contract and department store doctors. Another evidence of sincerity and reciprocity in the same direction would be withdrawal of support by unions of all politicians who place non-medical men in medical positions.

So far as the unions contain the old ideals of the guilds which exacted tests of skill for entrance into each stage, it is desirable to unionize the medical profession. I am opposed to any union designed for individual benefit.

If we can raise the standard of the profession and thereby benefit the race by our greater skill in hygiene, sanitation, prevention and cure of disease, then the profession should be unionized. American labor unions have missed one of the chief points as regards purpose, and that is improvement of their line of industry. Under the present system there is no incentive for an individual to acquire special skill in his line of work. It seems to be a settled principle of labor unions that the unskilled workman should be placed in skilled occupations.

Think, how absurd it would be if medical men should adopt the rules of the labor unions. The eight hour a day is impracticable in medical practice, only at an enormous cost of human life and human suffering. This is peculiarly true of



obstetrics, where the union man is particularly apt to grumble when the medical man does not give more than twelve hours a day of his time to hysteric explosions.

To unionize the medical profession along such lines as these would destroy all the benefit individuality has created for the uplifting and improvement of the race.

The fight for elevation of the medical profession has been a fight for trade union ideals as evolved from the old guilds, but we have had no greater opposition than that of the trade union members themselves, who have to so large an extent patronized the doctors, opticians and druggists of the department stores, and thus encouraged cheap and unskilled medical service.

"Much has been said of the power of knowledge; no one has calculated the power of ignorance." It is because in our enlightened country all things go—yes, going and gone, that men who might subserve some creditable purpose on an ash wagon by the twin whirligigs of time and fate, like Sancho Panza, are occasionally raised to eminence as a doctor, labor leader, Congressman, or president of steel trust. So, who knows but that in this age of sin and selfishness, bluff and boodle, the medical profession will degenerate into a trade union.

#### A Crying Need.

Union, of course; that's what we need.

"Haec docet," says the fable—

'Twill teach us how to keep things straight,

Recorded by the label,

We'll label all the union kids—

There can't be any others,

Quite legal, till a union's formed

Of fathers and of mothers.

The cards are issued when the pact

For union's fixed, and all straight,

Then in due course one member's made

A real walking delegate.

And true it is, as must be said,

Unmoved by fear or favor:

As in all other unions, he

Will do none of the labor.

Oh! yes, we need a union, much;

A good strong Federation,

Amalgamated, and all that,

Throughout this busy nation;

And a combine with the druggists;

Also the undertakers,

And have a label that shall read:

"The Brotherhood of Fakirs."

We'll go on sympathetic strikes,

When people who are wealthy

Will not get fractured limbs, and sick,

But stubbornly keep healthy.

And if the poor should need the help

Of our brave profession,

Then we could kick for higher pay

And form a big procession.

In union there is strength, and this

Is said too, of the onion;

A woman is a lady oft,

And oft a sloven runnion,

Pray let us as becomes a guild

In practice of a science,

Spurn unbecomming, shuffling ways,

And bid cheap claims defiance.

**The Chairman:** I have never heard of unionizing poets and I am sure as long as the medical profession has such poets there is no danger that we shall be unionized. I imagine this is only a sample of the spirit throughout the profession. So far the discussion has been one-sided and no discussion is interesting unless there are two sides. As I look around I do not feel like picking out a man to take the other side. I do not know, gentlemen, but I have an alarming suspicion that we have one man among us, whom I frequently hear speak on these occasions, who has shown a socialistic spirit, and we should all like to hear from Dr. Courtwright.

**Dr. C. W. Courtwright:** Lest there should be some alarm felt I will say that there is not the slightest danger of a union in the medical profession. There is no danger of unionism because in the medical profession there is not the slightest coherence in anything—while as an organization we do not do anything for the individual,—we do not do anything for each other, in fact. Somebody has said that "Hell and harmony both begin with H," and "Wherever two or three of us are gathered together," there is "the devil to pay." This typifies medical harmony, I, too, believe in education, I wish I had a better education myself, yet some of the best practical physicians I know of, the best surgeons, the best specialists, are not men who have spent a lifetime in getting degrees and studying sciences which have no bearing whatever upon the life work of the physician. I have seen eminent gentlemen from abroad, and they are cultured, it is true, but ordinarily, if they were put through the State Board examination suddenly, they would not pass it, if held down to good marking any better than we ourselves. A man forgets during the last five years of those long courses what he has learned the first five years, and when it comes to that wonderful test, the State Board examination, which lets him practice in Illinois and shuts him out of Indiana, I doubt if there are twenty men in Chicago today who could jump into a State Board examination after practicing five years, much less 10 or 15 years, and pass with a credit of 20 per cent. I could not pass tomorrow, and I have studied a good deal, graduating twice from good colleges.

So much for that everlasting grind which takes the best years of a man's life, the very youth and prime of his days, his best power and working ability and keeps him working for years on no-essentials. As I said before, some of the best medical men I know have not been through that grind. At the same time to those who receive that sort of thing, and absorb it mentally, there is no objection, but as to making it a condition before a man shall take up the



study of medicine, I cannot agree entirely with that.

Now as to the idea of unionism: As I said before, there is not the slightest possibility of anything approaching unionism in medicine, but there might be an organization of the medical body for the good of the medical profession, for its welfare and material improvement. So far, I know of no organization in the medical profession that **helps the medical practitioner at all**. I think we need help; I often feel as if I needed help, the help of a great body back of me in my work; but we do not have it. So far medical organizations simply make it harder for a man to get there, and if he has a family to support, as most medical men have, it makes him work hard to so support himself that he may be able to improve, and be a better man. And what is the consequence? Scandals as that tonight alluded to, come up in the profession. Why? Because men must live, and their families must live, their children must live, and the practitioner who sees his patient pay large fees to the specialist in one line or another, surgical or medical, when they cannot pay him ordinary bills for monthly attendance, is very likely forced, by his necessities, to drive bargains with somebody who won't take everything and leave him nothing. Why? Because the road is so hard. And **this scandal is the outgrowth of that organization of the medical profession which makes of the rank and file, the fellows "on the firing-line," so many bricks and so much mortar, to build a pyramid at the top of which stand a few manipulators, directly in the lime-light, getting all the prestige, reputation and emoluments, which may arise from the organization.**

**The Chairman:** This evening I heard a very clever little anecdote illustrating unionism. I do not think it right to monopolize that story, so I will ask Dr. Corwin to tell it to you.

**Dr. A. M. Corwin:** I thought I was very kind when I told the Chairman this little story, that he might use it if he wished to introduce our friend, Mr. Donnelly, who is not here. The story runs like this: A friend, a German on the South Side, who is a strong union man, having a birthday party, thought to deck the table with a well garnished pig's head. So he went to his butcher and told him of his wish, and the butcher said, I have just the thing. It is fine and quite fresh, and he brought it out. But is this union killed, my friend? I don't know about that, said the butcher; if you want a pig's head, here it is. But you know my wishes in the matter, and I don't propose to have anything to do with a pig's head that is not union killed. The butcher scratched his head a moment, then said, I'll fix it, and took the pig's head into the back room. When he returned, he said, 'It's all right now. What's all right; did you find that the pig was union killed? No, but I fixed it; I unionized it. How? I took out the brains.

We are all of us more or less pig-headed about certain things, but claim to have a little gray matter left, and by that token might not make good union men in the ordinary sense. But, gentlemen, it is the glory of this club, and

always has been that it has a platform so fraternal, so hospitable, broad, deep and sound that any man who is sincere and sane, and who has a message, can come here and talk to us. It is in this fraternal spirit we have been glad, sir, (Mr. Glenn), and delighted to listen to you. We do not care whether we agree with you or the other fellow or not. We listen to you with courtesy standing upon that platform, and we ask the same sort of respect to what we say, and we always get it in that spirit.

As to the principles of unionism, we agree on these things, of course, the principles of organization for the rights of the under dog, the poor against the rich, if you like, the weak against the strong. That is a thing we men in the medical profession pride ourselves upon, we help the poor whenever we can. The principles are all right, but the working out of these principles in unionism are often all wrong and do not have our sympathy. I refer to the boycott, to conspiracy, to intimidation of women and children, to the knife in the back, the blow in the dark, all these things that have brought bloodshed into the field of labor against capital.

Walking delegates?—The only walking delegate we have or ought to have, and I speak seriously, is the spirit of the man of Nazareth, the only man who has set the world the example of perfect usefulness, which we are proud to follow. Whether atheist or christian, Jew or gentile, whether we believe in the bible or not, we must acknowledge the inspiration that shines from that matchless life, the one perfect man, and every one of us, if a true physician, strives to follow that example, because it means usefulness, kindness, unselfishness.

Strikes?—We have no use for them except as directed against error and the evil-doer. What have we to do either with the eight-hour day? We who are at the beck and call of both capital and labor, not for eight hours in the day, but for twenty-four. Have we a quarrel with the capitalist? Not we. He looks too well upon our books. We want more of him. Do we sympathize with the laboring man? Any man in the medical profession in Chicago who does not love to work with his head, his heart, and his hands is not one of us. He ought to be carrying a hod. We are the sympathizers with labor the world over. We are, therefore, on peculiarly neutral ground, as I see it, we are between these two, and they come to us for we have no quarrel with either, we are the court of last resort; to us comes the man of muscle and the man of money, at the last; except the undertaker. It is not against outside oppression that we are organizing stronger and stronger every year, for scientific purposes first, and now through our State and National organization forming plans that in a few years ought to make us a mighty problem in politics. Then we will control our State and city medical institutions, instead of having to go down on our knees and grovel to some pothouse politician. This will be changed by unionism, if you like, in its best sense, organization along fraternal and intel-

lectual lines. As a matter of fact, the developments of the recent past would make it seem as if we should combine ourselves against the evil-doer that is in our midst; not somebody on the outside, but the fellows, not men, on the inside. It may be out of place in this meeting to speak of the notorious article in the Chicago Tribune of Oct. 17th, that has been a torch to set aflame the outraged dignity of this profession within a few days. I will stop right here, because I may say some caustic things, perhaps out of place, considering the subject of the evening's discussion.

Shall I stop?

Members: Go on.

**Dr. Corwin:** I am not here to discuss the pros and cons, the rights and wrongs of the question of the division of fees, the commission business. There are very wide differences of opinion on that proposition alone, in our State and in our City. You can find that out by talking with your friends on the street confidentially, or you can find public utterances of the best men in the profession, of recent date, writings editorial and otherwise. But let us stand upon this proposition, that the greater medical tribunal in the land, (as well as the lesser tribunals of our State and cities) have crystalized professional opinion in the by-laws of the American Medical Association, which declare emphatically that this whole question of giving and taking a proportion of fees, a commission business, is wrong, wrong in its fundamentals and pernicious in its results. I believe personally that such practice is wrong, but I protest, and many others here protest, against the manner in which in recent time publicity was given certain unsavory facts in regard to certain ethical sins, if you please, or errors of judgment of some of our profession. I am here to protest against the traitor in our midst who has dared to steal the good name of certain of our people, to steal what belongs to you and to me in the medical profession of Chicago, and give it, not to our own tribunal, our own judge, our own jury, but to some newspaper. How much he got for it I do not know, I can only guess.

I am aware that there are gentlemen here who believe that that publication was just, expedient, kind; that such a stirring up of the sediment from the bottom of the stream allows the current of public opinion to sweep away and purge the water of its filth. But have we not rather witnessed the pollution of the very fountain head of our professional water supply, the Chicago Medical Society? I think so. It is needless for us to emphasize what has been written and spoken on the proposition, is commission giving or taking wrong or right. Enough has been declared to make it impossible that any man should be ignorant of it. But notwithstanding this public sentiment, which we express; notwithstanding the overwhelming public spirit against this and other evils, there are those amongst us so venal, so selfish, so lacking in high moral purpose; whose consciences are so stultified by the greed for gold that given but the glittering goal, and any means are justified for its attainment. For

such the profession should lay in wait with a big stick, but of them and of their doings, it should speak to the public not at all. Are there any amongst us of whom we are ashamed, let us bring them within the pale of our own societies, correct them here ourselves, expel them from here, if need be, ourselves, but let public opinion come after, not before our action. Are there errors of judgment? Those things are to be dealt with according to our own laws, not paraded on the housetop or on public billboards. This is a family matter and should be dealt with in the family circle. If there is any spanking to be done, in the name of decency let us do it in the house and not on the public curb. There are here many besides myself who are ashamed that the Chicago Medical Society has in it any one with such a low standard of morals, who is so much of a coward, so much of a petty sneak, a poltroon, that he could go round to find some foible of his fellow and then give it out to sensational news-mongers, anonymously at that. The press, the unselfish, the pure press may be at fault in this thing. In last Monday's publication it may have distorted the facts; it is very likely. It has done it before, we expect it. Does it not seem that the press looks too often not for truth or falsity, but for sensationalism? The statement of a part of a truth is often as bad in its effaced as the open putting of a lie.

But who is he, is on every tongue? Who is he that has dared to act in this high-handed manner; to betray us. We are on his track and we will find him. Let him shake off that covering of secrecy, come out into the open, and stand in his shirt, that you and I may see whether there is really any manhood in him, or whether as we suspect, there is not, under his shock of hair, a growth of horns, and under his skirts the coil of a barbed tail. For have we not here the track of his cloven hoof? If he comes not out, he is a coward; if he does come out he will have to have better reasons to substantiate his position than any we can think of at the present time.

Gentlemen, there is a great deal to be said on this subject, but I am not going to take any more time. Although this is not the place or time to pass such resolutions, I think it is the concensus of opinion that such a resolution ought to be passed some day severely censuring the man or men who did this thing, or expelling him from the society. I care not what individual it may be, from the humblest in the profession to the highest in the profession, he will be so censured that no man will ever dare such a thing again.

**The Chairman:** I believe very few have serious objection to the words that have just been spoken. Although the subject was not on the program, if I judge the spirit of the meeting properly it had to come out, it would have been like trying to subdue a revolution that must make itself felt.

Speakers will please understand that we are dealing with the subject of unionism.

**Dr. C. S. Bacon** addressed the chair and said: I think some of us came here to discuss the sub-



ject of unionism and it is well to keep to that subject. We have been perhaps a little disappointed that the definition of the meaning of unionism has not been made a little more clear. I believe it is hardly fair to consider unionism as it is illustrated in certain trade-unions, as the ideal unionism. I do not believe that the real true, honest leaders of trades-unions believe that the present unions have reached that ideal at all, and I think we ought to consider rather the ideal union than the union as it is at certain stages of its development. So when Mr. Glenn says that one of the important objects of the union is to keep all men on the same level, all on the same plain of intelligence, I believe that is not a fair statement of an ideal union. It may be necessary for certain unions of working men in dealing with employers to insist upon certain even wages, but I do not understand that is the absolute essential principle of unionism and I should hardly think the statement that unionism is a failure, is correct. Trades unionism has certainly, in spite of its mistakes improved the condition of laboring men and I think it would be unfair to say that because of certain mistakes it is a failure. The leaders of trades-unions I believe have certain ideals as to what the unions should accomplish for the betterment of society at large, and so it is possible we may have some principles of unionism in the medical profession that form an ideal to which we can strive. Dr. Butler has given some history of unionism up to the present time. We have seen a development in unionism in the organization of the medical profession in recent years, and we have hopes of a continued development, and what is that except the application of the principle of unionism. Take for example our own local condition. Ten years ago we had medical societies with a dozen to twenty people meeting in the room of a hotel and discussing one or two scientific papers. We did not accomplish very much for the profession at large. There are many things that can be done through organized effort which was not done by that medical society. We have organized the profession of this city until over half of the profession is in a body that we call a society. Why was that done? It was not simply to get some scientific work; it was to improve the condition of physicians, for one thing. I believe that the men who are at the bottom of the organization of the American Medical Association have in mind the improvement of the social and political standing and influence of the physician; they realize that throughout the country a great many of the profession, the majority, do not have the standing they should have and do not exercise the influence they should. We are accomplishing the object of any union; the improvement of society is our object, and we realize what society, what the community at large needs in medical matters, and if we should have the influence to bring those things about we should be a strong union, we should have a stronger union than we have yet reached but which can be reached by adopting some of the principles of unionism. We should seek to improve the

standing, the economic condition and the principles of the profession, and we should at the same time strive to increase our own influence, because we feel that we are the ones who have the right to say what shall be done in regard to sanitary measures and the improvement of the health of the community. I confess it seems to me as if this was really a practical gain, and I can hardly appreciate the statement of the Chairman, that our subject tonight is not a serious question, but rather for a little fun. I think if we get on a little broader ground, and not suppose that we must adopt something just like the teamsters' union, perhaps, or something of that kind, but rather strive to build on the broad principles of unionism, we can accomplish something.

It seems to me that while the correcting of abuses that arise in our midst should be done by ourselves and not by others, not out on the streets, still we ought not make an unnecessary attack on the press. We are members of society, of the body politic, and it is not at all strange that the press, which represents all classes of society, should take an interest in affairs that concern them as well as ourselves. While we may justly criticize, if we know of any members of our profession who have been guilty of unprofessional, unethical conduct, still it is not necessary for us to criticize the press, which has done nothing but what it would do in other similar matters.

**Dr. W. C. Abbott:** I would like to devote the five minutes allotted for discussion of this subject, so far as my position is concerned, to saying (and reiterating) amen to the sentiments that have been expressed here tonight, beginning with the essayists first and extending to those who have so ably discussed the subject in its various phases. To me, we who personally represent the bulk of the profession in this city stand in about the same relation to these circumstances that old Mose, the colored man did, when upon one occasion he stopped the doctor on the street, in a Southern town, and said: "Dr. Johnson, dat old mule of mine, dat old white mule, is powerful sick, and I tought maybe you cud do someting fo dat old mule." "Well, said Dr. Johnson, "what's the matter with the old mule?" Mose told him as well as he could, and the doctor said, "Mose, I'll give you some medicine. Take a broomstick, wrap some brown paper around it, tie it with a string, take some of this powder and put it in, put it up to the old mule's nose and you get down and very carefully blow it into the old mule's nose three times a day."

A few days afterwards Mose met the doctor, who said, "Mose, how is the old mule?" Mose replied, "Dr. Johnson, I don't know jess how de old mule is but I don't feel very well myself." "What's the matter?" said the doctor. "Well, 'twas dis way" said Mose, "I done fixed de me'iclin jes as you said and put it up the old mule's nose, but I tell you Dr. Johnson, the old mule he blowed first."

If the medical profession were united, as we ought to be and as was outlined by Dr. Crof-



tan in his most able address, if we were standing by each other, as we should be, working for the betterment of ourselves and humanity, then a circumstance such as is referred to in the later discussion this evening, could not have occurred. What we need is a united profession. We are suffering constantly from the inroads of the charlatan and the quack, from the old woman to the Christian scientist. We are in every respect being beaten down and getting the worst of it. This has continued for many years and it is largely our own fault. The proper thing for the medical profession to do is to be a professional unit—one at heart. Embrace this very psychological moment a time when the lay press is taking a better position today in our interests than we are taking ourselves, and are refusing the advertising of the charlatan and the quack medicine manufacturer and come unitedly to the front filling to overflowing the position which is rightfully ours before the people.

**Dr. Denslow Lewis:** I appear tonight for the first time in two years at a medical meeting in this city, and I see opposite me my friend, Dr. George F. Butler, who appears here, I think, for the first time in five years. I recall the fact that when we two last met together in this Club there was at our side a genial gentleman, Dr. I. N. Love, of St. Louis, a man whose name symbolized his disposition. I have been thinking of the Medical Mirror that Love edited, and particularly of the title page on which were the words of Hodgen: "If voices from the dead should come to us, the cry would be, more light, more knowledge for our profession." I used to read those words every month when that periodical appeared, and I revolted against that sentiment, as I do now, because I believe it to be untrue. I do not think we need more light, but that we need to use the light that we have. I do not believe we need to know more things to do, but we need to do the things that we know. Now, the medical profession is supposed to be a brotherhood; we speak of the medical fraternity. But what a parody on the name it is when one brother practitioner tries to cut the throat of another. What a farce it is to speak of a fraternity, as the medical profession should be, if one brother tries to rip another up the back. What we need in unionism is not a union as we understand it, or as it exists among trades; we have no trade, we have no business, we are a profession, we are not working primarily for money but for the good of humanity. And I believe there is not a medical man in the City of Chicago who, appreciating the nature of his calling and his true position in reference to the community in which he lives, is not ready to respond at all times to the call of suffering humanity without thought of pay. Certainly for myself I am glad to say that during the twenty-six years I have practiced in Chicago I have never refused to operate on any case that has been brought to me, without regard to remuneration. I believe the medical profession is above all things philanthropic, devoted first of all to the cause of humanity. As medical men have to earn their livelihood from the practice

of their profession, they accept fees, but the fee they receive is not a *quid pro quo*, nor in any sense an adequate return for services rendered. The Bible says, all that a man hath will he give for his life, and certainly any money consideration that passes between the medical man and his patient is not an equivalent nor a payment; it is simply an honorarium, and whether that takes one form or another, it is not to be considered an equivalent for services rendered.

The surgeon will get all he can from a patient and then he does not get enough. His business methods are not a subject for discussion for his fee is never an adequate payment for his services. So I think this discussion about fees and the division of fees that has come up is most unfortunate for the good name of the profession, and entirely out of place. I think the men who sent out decoy letters designing to entrap their professional brothers should be discovered and held up to the contempt of the profession. I want to believe that the medical profession is a fraternity. I want to believe that the good name of the profession is dear to every member. When we have organized, as Dr. Bacon says, and the time has come when we should have that kindly feeling one for another which is the due of everyone. Along these lines we should work. In that sense alone is there meaning in the term of unionism.

Dr. Clarence A. Earle, of Desplaines, Ill., said that probably he could speak from a standpoint different from that of anyone present, inasmuch as he was probably the only one present who was a member of a union. In Desplaines the four or five doctors there had formed an association to regulate the fee-bill, and they had had the rates printed on cards, which each member posted in his office. Dr. Earle alluded to the friendly feeling which had grown up among the members of the profession in Desplaines, because of an association together for a common object, although that object had at first been purely a mercenary one. He told a little story of meeting on the train, a day or two after the inception of this medical association, a patient, who said to him: "Well, Doctor, I see that you doctors have formed a trust." "No," said Dr. Earle, "only a union." Dr. Earle reminded the company that, while the medical profession was essentially altruistic, and was certainly not mercenary, yet its members were obliged to earn a living and educate their children with the earnings from their medical practice, and it was in no wise derogatory to professional dignity to sometimes consider the hard bread-and-butter facts.

**Dr. Homer M. Thomas:** We have had fluently presented to us the precepts and the life of the Great Master as the ideal toward which we should all aspire. In view of the succeeding remarks of the speaker, Dr. Corwin, I question very much whether the lesson of that life has in any sense been applied or considered. Permit me to recite a little couplet that I think should embrace that broad charity, that comprehensive consideration of vital principles

that should govern every life, whether the life of the union man, whether the life of the scab, whether the life of the politician, the journalist or the Doctor.

"There is so much good in the worst of us

There is so much bad in the best of us,

That it hardly becomes any of us

To speak ill of the rest of us."

There may be times when silence is golden, but I want to distinctly resent, much as I regret to, the statement of my friend that the main thing in the profession of medicine is money, **merely** money. We are not tradesmen, we are not in the profession of medicine merely for money, we are supposed to represent a science whose roots run back to the early history of the world, and whose comprehensive and steady progress to-day is exemplified in a decreasing death-rate and in the amelioration of all mankind from the ills by which it is beset. When a professional confrere, no matter what stress he may be under, no matter what difficulties he has to surmount, says here in open meeting that the main thing in medicine is money, he expresses sentiments that I do not think can possibly meet with general acceptance.

The press needs no words of economium or of support from me or from any doctor here. It is to-day one of the greatest agencies for good in the world, and it does as much for charity; it does as much for medicine as any agency of modern times. Think of the thousands of columns that were given gratuitously by the press to the dissemination of the recent tuberculosis symposium. Given freely, given without thought of recompense, valuable space which, if used for advertising, would have brought in hundreds of thousands of dollars, and for what purpose? Merely to ameliorate the sufferings of mankind. The press is the friend of the doctor, and I do not agree with my friend, Dr. Corwin, that it seeks simply for the sensational whether of truth or falsity. The exception will prove the truth of my statement.

It has been said that the profession is carrion upon which to feed the vultures of society. If professional prestige has sunk so low in the breast of any person that he regards himself as carrion, then it is well that the vultures of society might find in him abundant food and nourishment, but the physician who maintains his self-respect and practices upon grounds of professional purity, or at least aims to, can never be considered a carrion of society.

I regret as deeply as any one can the occurrences of the past week. I was one of those considered to be of sufficient alleged professional prominence to receive one of the letters. It was answered in due form, and I wish to resent, as all right-minded, fair-minded men must, the assumption of any self-appointed man or men who think they can in the secrecy of their room, or office, or clique set themselves apart like a Moses upon the mountain and act as judge of the professional probity of their brethren. It is absolutely iniquitous.

I cannot help but think that if any other profession had been treated with disrespect, if they have suffered in any way unjustly, it is largely due to a lack of self-assertiveness, that

should come from any physician in his work. I believe the physician is worthy of his hire, and I believe the public will pay the physician what his services are worth. I do not believe that the physician who is anxious to succeed by subversency, by submission, by crawling is the one who will ever have the respect that his scientific calling and scientific standing entitle him to. Therefore, I believe in the unionism of all good motives, of all good purposes in the idealism of our science; that we are in this world to do the best we can for each other, and that today the civilization which is the beacon light of the twentieth century is a higher and grander and better one than has ever existed. I think that in the interests of our profession, in the interests of all who are striving for higher endeavor, loftier purpose and nobler ideals, we must give them all credit for purity of purpose, and speak ill of no one.

**Dr. A. M. Corwin:** I feel that as a director of the Club it is proper that I say a few words in addition to what I said before. What I said in regard to the press I said as an individual standing on my own feet. I made no reflection on any individual of the press here, they know that. The press has always received a warm welcome to the Physician's Club. I laid down the platform on which we meet here and speak our minds freely. The reason I said the press may have misrepresented in the matter of Monday is that either the two individuals who went to the Tribune are responsible for giving it that material and no more, or else the Tribune has garbled it by leaving out a most important part. One hundred people received these letters; 82 per cent of these may be considered honest men who either threw the decoy letter into the waste basket, or turned it down, but only eighteen per cent accepted the invitation. Did the Tribune put this proportion plainly or fairly. It published nineteen names of doctors, two of whom the public would from that report consider equivocal in their position, thirteen accepted the invitation while only four names were given of the men who flatly turned the proposition down. Why were not the other twenty-two who declared themselves by letter as emphatically against the commission business given opportunity to express themselves as well as these four.

**Dr. Richard M. Fletcher, Jr.:** I do not want the members of the Club to place me with a military character I knew of, who, when taking his company into battle said to the men, "Fight like the devil as long as your ammunition lasts, but when it is gone run like an antelope. As I am out of ammunition, I will start now." I agree that this is a serious question, and I want to take a brief moment to put myself on record. There are unions, and there are unions, but if we mean that the medical profession of Chicago is to organize a union in the general acceptance of the word, like some unions I have had experience with, I must say emphatically that I am opposed to any such thing. But if it means that we want to organize ourselves for altruistic purposes and not for commercial gain, if we



want to get together for the protection of ourselves as medical brethren, not in a spirit of holding up our fellow man as a sick individual, but get together to sustain each other and purify our practice, to teach the public to accept us as medical men, as keepers of their bodies and almost of their souls, then I say let us have unity in Chicago and out of it, in the medical profession.

We will never regulate the commercial worth of men's brains, doctors, preachers, lawyers or business men. We are worth as much as our ability is worth, and if we cannot have a club steak we take a round steak, but if we take the club steak we must pay the difference, and so with the sick man. If the sick man wants the surgeon, the specialist or the general practitioner of great ability and reputation, he must pay for him. One doctor might charge one thousand dollars in a case where another doctor would be glad to get a hundred dollars.

The idea of unity is to protect ourselves and our fellow men in an honorable, right way, but the idea of intelligent, reputable, educated, medical men combining together to regulate fees, or to sue or boycott Jones, Smith or Brown because he does not pay his bill, is a reflection upon us.

The press is an exponent of the intelligence of every profession and business and I think it is right to let the public know how we, as doctors, feel. Has it come to the time when we are willing to confess that our only motive in medicine is money getting? Are we ready to admit that our profession is now a trade and that we need trade unionism to protect us? There is not a man in this audience tonight who with his ability and education could not by applying the same energy and determination, the same physical force, to some other calling, make seven dollars to one dollar that he makes today.

Let us be charitable. Let us be true to ourselves, to our profession and to each other. It has been said that there was never an officer cashiered from the United States Army that was not guilty. The officers of the United States Army are so charitable, so wholly true to themselves that they cover every man with a mantle of charity, they treat him as an honest man, until the individual demonstrates beyond the shadow of a doubt his guilt or his unfitness to remain in the service.

What we need in our profession is charity, and a determination to make the public respect us, and to cease asking forgiveness for things we have not done.

We must respect ourselves and our profession and demand of the general public the same respect. We must teach the people that it is our right and ours alone to say what shall and what shall not be done in all matters of public health and hygiene and sanitation. When we are so united as a profession that each and every one of us are willing to stand on guard against every invasion of our just rights and principles, then will our profession occupy the high position of honor that it so justly deserves. Then we will have one of our number filling the Cabinet position of Secretary of Public Health, and we will have all the honor and

glory and money that is our due. But we will not get any of these things in a so-called union.

**Dr. Hall**, a guest from Bloomington, Ill., spoke: I am only a visitor here and do not feel that it would be in place for me to attempt to make a speech. I have been interested in the remarks made and have made up my mind that the gentlemen who represents the Manufacturers' Association and the gentlemen who are opposed to trades-unions need not give themselves any uneasiness. Judging from the remarks made here this evening, there will be no union of doctors.

I was specially interested in the discussion of the recent Tribune article from the fact that in my home town nine years ago I had occasion to withdraw from the McLean County Medical Society because there was an attempt made to form a schedule of prices and have them published and posted in our offices. I did not approve of it for many reasons,—one was the reason suggested here by several speakers, that we are not tradesmen, not commercial men,—that we are professional men. I also objected to it for the reason that I had the name of charging a little more than the average and I did not want my prices cut down. I believe the medical profession should not grovel in the gutter of commercialism. The medical profession is higher,—it stands higher at the head of the professional world. I believe when there is a disturber in your fraternity you should speak gently, and carry your club. I lunched to-day in a club where the majority of members are lawyers and judges and the recent Tribune article was discussed at this luncheon. I heard one judge say that the matter of dividing fees would be legal in case you took the patient into the arrangement. I had another great interest in this matter because of the fact that in practicing medicine 12 years in Bloomington I have had occasion oftentimes to call on the Chicago profession, and a number of times have brought patients to some of those whose names have recently appeared in the newspapers, but I did not get any fee, and some of these men insisted in the papers that they would be willing to divide the fee. I don't think I got a square deal.

**The Chairman:** It may be of some interest to say that yesterday in my office a prominent lawyer said that division of fees among lawyers was of daily occurrence. Of course, I do not mention this in order to excuse our profession, but only to show how different standards obtain in different professions.

**Dr. A. H. Andrews:** I am not an orator to entertain you, nor a moralist to lay down a code of morals for my professional brethren, but I have some thoughts on this subject. I believe the best friend capital has in the world is labor, and the best friend labor has in the world is capital. One cannot get along without the other, and the man who today undertakes in any way to prejudice capital against labor or labor against capital is an enemy to humanity. We can only judge of unionism by its fruits and, judging by the fruits we see, we want none of it. I believe the best friend



the physician has today is the public, and the best friend the public has today is the physician, and any man who does anything to in any way prejudice the mind of the public against the profession of medicine, is an enemy to both.

**Dr. Graves:** During the last few years my work has been extensively, almost entirely amongst working people. Dr. Butler spoke of the laboring man, the union man, helping along the quack doctors and the doctors who charge by the month. I want to say that there is some excuse. It is my firm belief that the average working people have to pay more for medical services and medicine than they ought to; it is a great burden upon them, any one who has a family has a burden out of proportion to his wages. On the other hand, I do not think the general practitioner among that class of people is overpaid, he is rather underpaid. How are we to get around this difficulty, this evil. I cannot express my thoughts as well as I would like, but this question deserves a good deal of study. I do not see how a union could help this matter but if a man is allowed to dream, it seems to me the time might come when the doctor's work and wages could be allotted to them a little more after the style of other working people. They might have their regular hours of work and rest, and might know what was coming in and figure on it accordingly and not have to tie themselves down as our general practitioners have to do now. They come to meetings like this or even of the Medical Society very seldom, they have to keep hustling day and evening, they cannot leave their work, as a professional man should. It seems to me the time ought to come when it would not only be the pleasure but the duty of a doctor to have two months in the year for post graduate work, and some for recreation to build up the physique.

**Dr. Brown, (Wisconsin):** In this discussion of unionism, which has brought out the discussion of the late unpleasantness, I would like to say a word for the country practitioner who is being maligned in this as much as is the city practitioner. In my experience as a country physician the majority of cases we bring in here are not wealthy people, we have few wealthy people in the country. I think the profession will bear me out when I say that in place of soliciting a division of fees the country doctor solicits the city physician to cut his fees to meet the requirements of the case. I think

in this discussion the country doctor has not received any consideration at all, he is looked upon as a vampire. He should not stand in that light; some consideration is due him, he works hard, gets little for it and when he brings his patient to the city physician explains the circumstances, perhaps the patient has a little farm but very little money, and he asks the city physician to make his fee reasonable. In justice to the specialist I must say that the request is never refused.

**Dr. W. M. Fitch:** I would like to say a word in reference to Dr. Earle's remarks. He has spoken very frankly for the unionism of the profession to a certain limited extent and in a certain line. He comes from a country town where the physicians know the circumstances of their patients; they know also that they were in competition and that each physician was suffering from this competition, and in a very simple and reasonable manner they agreed upon certain regular fees, which the patients accepted without question. Dr. Earle comes before this Club frankly and gives that experience, but his remarks are resented, I think very unjustly, by the speakers who come later. I do not say that such a method is applicable to Chicago; Dr. Earle thinks it is, I think myself that it is distinctly doubtful, but I do think this, that the physicians in justice to themselves should give more careful attention to the financial part of their work. It is impossible for a physician to do good work unless he receives a good income because he has not the tools to work with, and in order to do good work he must have good tools. He can no more do good work without a good income than a carpenter can work without tools. Certain speakers have taken the stand that we should work from a higher and advanced standpoint, the standpoint of charity. I do not say that we should not, but I do say that in the profession there are very gross commercial evils, with gross injustice practiced by one physician against another along directly commercial lines, and I think when a discussion of this kind comes up a statement made in good faith by a brother practitioner in regard to a certain method which has been found useful in a given locality to correct certain evils, should be received justly and fraternally.

At its next meeting, December 6, the club will discuss the subject, "The Place in Medical Education of the Evening Medical College."

# The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

## PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

We call attention particularly to the advertisement of the Biloxi Sanitarium found in our advertising pages. Every winter an increasing number of elderly people and invalids requiring a mild climate fly from the regions of our northern climate and seek the balmy breezes of the Gulf. No better place on that coast can be found than the Sanitarium at Biloxi.

## BOOK NOTICES.

### THE SURGERY OF THE ABDOMEN.

#### Appendicitis and Other Diseases About the Appendix.

By Bayard Holmes, M. D., Professor of Surgery in the University of Illinois, of Clinical Surgery in the American Missionary College, Chicago; Attending Surgeon in the Chicago Baptist Hospital. Boards, \$2.00 net, prepaid; sold only by subscription. 8vo, 368 pages. 39 illustrations in the text. 7 plates, two of which are in color. D. Appleton & Co., Publishers, 436 Fifth avenue, New York, and 203 Michigan avenue, Chicago.

This book is a portion of the author's forthcoming volume on the **Surgery of the Abdomen**, which will be his second volume on **Surgical Emergencies**. The **Surgery of the Head** appeared eighteen months ago.

The part which now appears under the title **Appendicitis and Other Diseases About the Appendix** is an integral portion of the surgery of the abdomen. It follows out the plan adopted in the **Surgery of the Head**, and presents in full the more important and the more imminent conditions calling for surgical relief. Each topic is illustrated by abundant clinical reports, which are introduced in order to make the presentation as vivid and lasting as possible. The work is largely based upon the author's experience, especially in diagnosis and indications for treatment. It presents the unclouded picture of the disease with all its threatening possibilities, and shows in an orderly and logical manner the attitude of the physician toward the first and each subsequent manifestation of the disease. It puts before him the dangers which threaten the patient, and calls attention to the errors into which the attending physician is likely to be led.

No effort is made in this work to collate the contributions of the profession to this subject, but it gives in a forceful and masterly way

the picture of the disease and the indications for its treatment which a logical mind with large experience and extensive reading is bound to assume.

This book, like the author's previous publication, is clear, unmistakable, and fascinating to the reader. The necessary detail is worked in without interrupting the continuity of thought or weighing down the interest of the reader.

### The Surgical Treatment of Bright's Disease.

By George M. Edebohls, A. M., M. D., LL. D., Professor of the Diseases of Women in the New York Post Graduate Medical School and Hospital; Consulting Surgeon to St. Francis Hospital, New York; Consulting Gynecologist to St. John's Riverside Hospital, Yonkers, N. Y., and to the Nyack Hospital, Nyack, N. Y.; Fellow of the New York Academy of Medicine and of the American Gynecological Society; Honorary Fellow of the Surgical Society of Bucharest; Permanent Member of the Medical Society of the State of New York, etc. Published by Frank F. Lisiecki, 9 to 15 Murray street, New York, 1904.

A few years ago Dr. Edebohls startled the medical world by his bold proposition to operate for chronic Bright's disease. Dr. Edebohls states that while the time is not ripe for a complete systematic presentation of the subject of the surgical treatment of Bright's disease, yet there is manifest a very active and insistent demand on the part of the medical profession for such facts and information, especially as regards results, as may at present be available concerning the new treatment of so common and fatal a malady as chronic nephritis. To meet this demand as nearly as possible has been the object of this volume. The work is composed in about half its extent of articles contributed by Dr. Edebohls to medical journal literature from time to time, the latter portion of it being devoted to a presentation of the histories of cases operated upon by him, giving these in detail, so that they all can be carefully and analytically studied. Dr. Edebohls closes his interesting volume with an analysis of results in the seventy-two patients whose histories he records, and indulges in the conclusion that the evidence submitted not only justifies the surgical treatment of Bright's disease, but establishes surgery as the main, if not the only, hope of sufferers from a hitherto incurable malady.



Louisville, Minn., Oct. 30, 1904.

Gardner-Barada Chemical Co., Chicago, Ill.:

Gentlemen—My experience with the sample bottle of Uriseptin has been most gratifying. So much so that I shall give you particulars of the case.

Mrs. J—, age 57, for several months has been a great sufferer from a form of eczema and has been under treatment from five or six of the leading physicians of Iowa, with only temporary relief. So discouraged had Mrs. J. become that she had often contemplated suicide to end her misery. She finally came under my charge, and after a thorough diagnosis and examining the urine, I found it contained a large excess of uric acid, and considered that I had found the cause of trouble and pronounced it a clear case of "paraesthesia." I at once put her on your Uriseptin. Before the contents of bottle was taken she reported as entirely free from all itching. The urine has cleared up and in fact, as she puts it, "feels like an entirely different person." I have recommended that she have her druggist get another bottle and continue its use for some time yet and report later.

Truly yours,

(Signed) CHAS. F. BISSELL, M. D.

**Urotropin, Methylene Citric Acid, and Urotropin Methylenecitrate (Helmitol or New-Urotropin.)**

Prof. Arthur Nicolaier (Deutsches Archiv f. klin. Medicin, Vol. 81, 1904), records his very exhaustive studies of these drugs. It is an established fact that urotropin, introduced by him nine years ago, is a most efficient remedy, the number of original papers thereon exceeding 200. This literature confirms all the assertions he made in 1895,—that urotropin in  $7\frac{1}{2}$ -grain doses dissolved in one-half pint of water, given twice or thrice daily, is harmless and therapeutically effective; that soon after its administration it appears unchanged in the urine; that the urine, without losing its acidity, acquires uric acid-solvent properties and an inhibitory action on micro-organic growth, and that there is often a diuresis.

It is used with good effect in uric acid concretions and in gout. But the most brilliant results are seen in bacterial diseases of the urinary passages, in cystitis, pyelitis, pyelonephritis, and in posterior urethritis. It lessens the pain and dysuria, eliminates the pus from the excretion and, if it is ammoniacal, removes the alkalinity and restores its acid reaction. It is ineffective only in tuberculosis of the urinary tract; and even here it is occasionally useful to combat mixed infection. Urotropin is generally effective in a short time; not infrequently all symptoms disappear permanently or do so when the remedy is resumed and persisted in for prolonged periods. Its efficacy is not dependant on a special urinary reaction; it acts equally well whether the urine is acid, alkaline or neutral. The very first case which I recorded was one of a very severe cystitis with ammoniacal urine.

Urotropin is indicated in all urinary infections, in bacteriuria, especially that of typhoid fever, which occurs in about 25% of all typhoid cases, usually after the third or fourth week. Urotropin  $7\frac{1}{2}$  grains t.i.d. generally removes it in a week.

As a prophylactic before and after instrumentation large daily doses up to 60 grains should be given. Of course, this is too much for steady use. Lately it has been recommended as a preventive of nephritis in scarlatina, and finally it is successful in certain cases of phosphaturia.

In 1901 I experimented with the methylenecitrate of urotropin, which has been introduced under the names of "helmitol" and "new-urotropin." My first tests were made with methylene citric acid alone. Animal experiments showed that after its ingestion no free or loosely combined formaldehyd is present in the urine, and that it did contain some albumin. In a healthy man 1 gram four times daily occasioned severe diarrhoea, and in another 4 grams caused a papulo-vesicular eczema of the skin and cheek. Even with the latter dose, urines infected with micro-organisms and kept at a temperature of  $98.6^{\circ}\text{F}$ . became turbid in two days from abundant bacterial growth. Methylene citric acid, therefore, is decidedly inferior to urotropin. The same objection holds good for the sodium salt of methylene citric acid, citarin.

As to the methylene citric acid salt of urotropin (helmitol), which contains 40.7% urotropin, the usual daily dose is 45 to 60 grains, corresponding in urotropin content to  $22\frac{1}{2}$  grains urotropin. Larger doses of helmitol give unpleasant by-effects, such as meteorism and diarrhoea, as Heuss, Mueller, Seifert, Fisch and Von Zellenburg have reported; these are doubtless due to the contained methylene citric acid. Urotropin in doses of  $7\frac{1}{2}$  grains t.i.d., dissolved in a tumblerful of water, never causes such untoward actions. The use of large doses of helmitol for prolonged periods is impossible because of dysuria, vesical burning and irritation. Bering has observed renal irritation (albuminuria); Goldberg states that, in contradistinction to urotropin, 45 to 60 grains daily caused hematuria in two out of ten cases.

Like urotropin, helmitol does not affect the acidity of the urine. Both drugs simply hinder the growth of the micro-organisms of ammoniacal fermentation, and hence the normal acid reaction reappears. After the exhibition of sufficiently large doses of helmitol, free or loosely combined formaldehyde is present in the urine. Since this is not the case after the ingestion of methylene citric acid alone, the question is whether this effect is not due to the 40.7% urotropin which helmitol contains.

Mueller made some comparative tests of urotropin and helmitol, from which he concludes that the latter has a greater antibacterial power; but he made the fundamental error of sterilizing his urotropin and helmitol solutions by heat ere he added them to the nutrient media. I have shown that urotropin solutions



split off formaldehyd when opposed to a high temperature; and this is far more so the case with helmitol solutions of equal strengths; for aqueous solutions of it react strongly acid while those of urotropin are feebly alkaline. The helmitol solutions which Mueller added to the nutrient media contained thirty-four times as much formaldehyd as did the urotropin solutions; and this vitiates his experiments. Bruck made very extensive comparative investigations of the two drugs and concludes "that urotropin methylene citrate (helmitol) is no more powerful than urotropin; its effect is dependent on the variety of bacteria and the amount of bacteria in the urine in exactly the same way; and that in very purulent urine it is decidedly weak." Clinical trials prove that in doses which are the co-efficient of the usual urotropin doses, i. e., which are two and one-half times as great as the latter, helmitol is effective in exactly the same diseases in which urotropin is effective and is ineffective in exactly the same cases in which urotropin is ineffective.

To conclude: (1) Both in bacteriological and in animal experiment as well as in clinical tests methylene citric acid proved to be absolutely inert and to cause certain untoward actions. (2) Urotropin methylene citrate (helmitol) has been shown, both bacteriologically and clinically, to be dependent for its therapeutic efficacy upon its urotropin contents. (3) By reason of the contained methylene citric acid, helmitol may cause unpleasant by-effects. (4) As the dose of helmitol is based on its urotropin contents of 40%, the dosage is more than twice as great and consequently more than doubly as expensive.

#### HEBREW ORPHANS' HOME.

Atlanta, Ga., Dec. 22, 1903.

Messrs. M. J. Breitenbach Co.,  
53 Warren St.,  
New York City.

Dear Sirs: A feeling of gratitude prompts me to acquaint you with the wonderful success with which the use of your preparation, Pepto-

Mangan (Gude), was accompanied in several instances within our direct observation: A nine year old inmate of this institution had for some years been an epileptic. After all the ordinary remedies had been exhausted, we put him, on the recommendation of Dr. S.G.C. Pinckney, on Pepto-Mangan. In the course of a few months, his attacks became less frequent, until they entirely disappeared, whereupon the medicine was discontinued. It was not long, however, before he was again seized with a spasm which recurred in constantly lessening intervals until he had relapsed into his old condition. Once more we put him on your preparation, continuing it this time for a whole year, long before the expiration of which the attacks had again gradually subsided. Since the second discontinuation more than a year has elapsed, and still the lad is hale and hearty, and entirely without a symptom of his malady.

Beyond a question of a doubt, a radical cure was also effected in a number of cases of eczema of the scalp, which had spread in an alarming manner in our "home," and which had baffled the skill of the most experienced specialists. For six long years had we been battling against this scourge in vain, and we probably would still be struggling against it had not the use of Pepto-Mangan (Gude) been resorted to. The circumstances accompanying the above instances conspire to furnish not merely a conviction, but a proof absolute of the efficacy of your preparation. The latter is rather expensive, and we are as poor as an orphanage generally is, yet we feel it a sacred duty to continue the use of Pepto-Mangan whenever indicated.

Believe me, gentlemen,

Most respectfully yours,

HEBREW ORPHANS' HOME,

R. A. Sonn, Supt.

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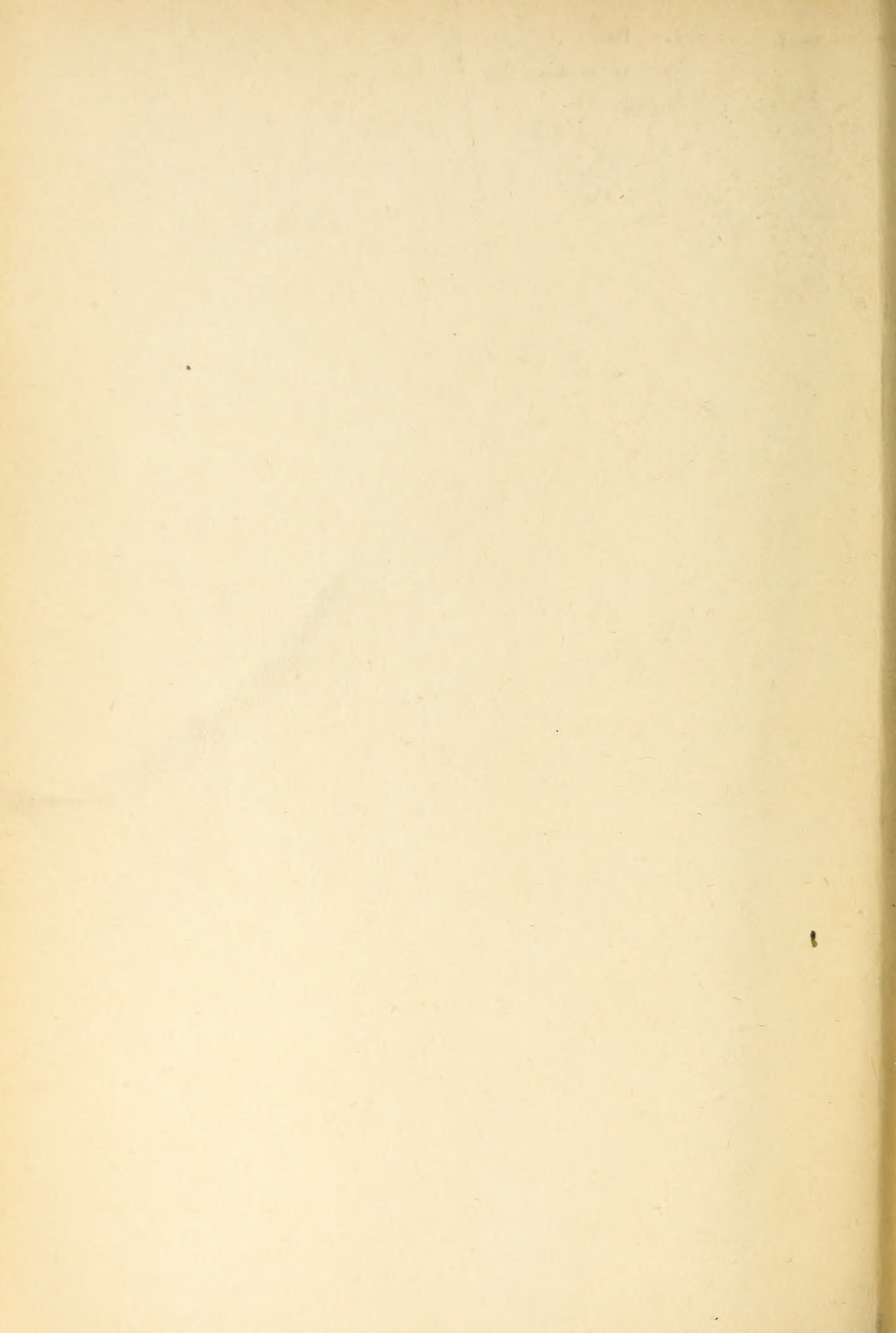
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